



FINAL
RECORD OF DECISION
SITE 25 SOIL

ALAMEDA POINT
ALAMEDA, CALIFORNIA

September 2007

Prepared for:

**Base Realignment and Closure
Program Management Office West
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310**

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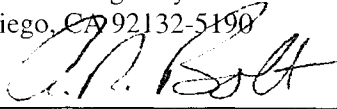
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Naval Facilities Engineering Command SW
Ms. Beatrice Appling, AQE.BA
Building 127, Room 108
1220 Pacific Highway
San Diego, CA 92132-5190

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A. N. Bolt, Program Manager

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TABLE OF CONTENTS

	<u>PAGE</u>
LIST OF TABLES	v
LIST OF FIGURES	v
APPENDICES	vi
ABBREVIATIONS AND ACRONYMS	vii
DECLARATION	D-1
1.0 SITE NAME, LOCATION, AND DESCRIPTION	1-1
1.1 SITE NAME	1-1
1.2 SITE LOCATION	1-1
1.3 SITE DESCRIPTION	1-2
2.0 SITE HISTORY AND ENFORCEMENT ACTIVITIES	2-1
2.1 SITE HISTORY	2-1
2.2 INVESTIGATION ACTIVITIES	2-2
2.2.1 CERCLA Investigation Activities	2-3
2.2.2 RCRA Investigation Activities	2-4
2.2.3 EBS Investigation Activities	2-4
2.3 PREVIOUS REMOVAL ACTIONS	2-4
2.3.1 Clover Park	2-5
2.3.2 Site 25 USCG North Village Housing and Estuary Park Areas	2-5
3.0 COMMUNITY PARTICIPATION	3-1
3.1 RESTORATION ADVISORY BOARD	3-1
3.2 PUBLIC MAILINGS	3-2
3.3 COMMUNITY PARTICIPATION FOR SITE 25	3-2
4.0 SCOPE AND ROLE OF OPERABLE UNIT AND RESPONSE ACTION	4-1
5.0 SITE CHARACTERISTICS	5-1
5.1 GEOLOGY	5-1
5.2 HYDROGEOLOGY	5-2
5.3 NATURE AND EXTENT OF SOIL CONTAMINATION	5-4
5.3.1 Extent of PAHs in Soil	5-4
5.3.2 Extent of Metals and Cyanide in Soil	5-5
5.4 CONCEPTUAL SITE MODEL	5-5

TABLE OF CONTENTS

(Continued)

	<u>PAGE</u>
6.0 CURRENT AND POTENTIAL FUTURE SITE AND RESOURCE USES	6-1
6.1 CURRENT AND FUTURE LAND USES FOR SITE 25	6-1
6.2 CURRENT USES OF ADJACENT LAND	6-1
6.3 GROUNDWATER USES	6-1
6.4 SURFACE WATER USES	6-2
7.0 SUMMARY OF SITE RISKS	7-1
7.1 BASELINE HHRA APPROACH	7-2
7.1.1 Identification of Chemicals of Potential Concern	7-2
7.1.2 Exposure Assessment	7-2
7.1.3 Toxicity Assessment	7-3
7.1.4 Risk Characterization	7-3
7.2 SCREENING LEVEL ERA APPROACH	7-5
7.3 NCP POINT OF DEPARTURE ANALYSIS	7-6
7.3.1 Exposure Factors	7-7
7.3.2 Uncertainty	7-9
7.3.3 Technical	7-11
8.0 REMEDIAL ACTION OBJECTIVES	8-1
9.0 DESCRIPTION OF ALTERNATIVES	9-1
9.1 ALTERNATIVE 1 – NO ACTION	9-1
9.2 ALTERNATIVE 2 – ICS	9-2
9.3 ALTERNATIVE 3 – ICS AND EXCAVATION FROM 0 TO 2 FEET DEPTH IN UNIMPROVED AREAS OF DA 1, 2, 3, AND 6 IN PARCEL 181 WITH OFF-SITE DISPOSAL AND BACKFILL	9-2
10.0 COMPARATIVE ANALYSIS OF ALTERNATIVES	10-1
10.1 OVERALL PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT	10-1
10.2 COMPLIANCE WITH ARARS	10-2
10.3 LONG-TERM EFFECTIVENESS AND PERMANENCE	10-2
10.4 REDUCTION OF TOXICITY, MOBILITY, OR VOLUME THROUGH TREATMENT	10-2
10.5 SHORT-TERM EFFECTIVENESS	10-3
10.6 IMPLEMENTABILITY	10-3
10.7 COST	10-3
10.8 STATE ACCEPTANCE	10-3
10.9 COMMUNITY ACCEPTANCE	10-4

TABLE OF CONTENTS

(Continued)

	<u>PAGE</u>
11.0 PRINCIPAL THREAT WASTE	11-1
12.0 SELECTED REMEDY	12-1
12.1 INSTITUTIONAL CONTROLS	12-2
12.1.1 Site 25 Institutional Controls	12-2
12.1.2 Interim Institutional Controls	12-2
12.1.3 Long-term Institutional Controls	12-2
13.0 STATUTORY DETERMINATIONS	13-1
13.1 PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT	13-1
13.2 COMPLIANCE WITH ARARS	13-1
13.2.1 Chemical-Specific ARARs	13-4
13.2.2 Location-Specific ARARs	13-4
13.2.3 Action-Specific ARARs	13-4
13.3 COST-EFFECTIVENESS	13-6
13.4 USE OF PERMANENT SOLUTIONS AND ALTERNATIVE TREATMENT TECHNOLOGIES (OR RESOURCE RECOVERY TECHNOLOGIES) TO THE MAXIMUM EXTENT PRACTICABLE	13-7
13.5 PREFERENCE FOR TREATMENT AS A PRINCIPAL ELEMENT	13-7
13.6 FIVE-YEAR REVIEW REQUIREMENTS	13-7
14.0 DOCUMENTATION OF SIGNIFICANT CHANGES	14-1
15.0 REFERENCES	15-1

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LIST OF TABLES

	<u>FOLLOWING PAGE</u>
Table 2-1	Summary of Removal Actions and Investigative Activities..... 2-4
Table 3-1	Summary of Alameda Point Fact Sheets, Newsletters, Public Notices and Proposed Plan Related to Site 25 Soil 3-2
Table 5-1	Chemicals of Concern Detected in Soil 5-6
Table 7-1	Summary of Estimated Cancer Risks and non-Cancer Hazard Indices for Soil 7-6
Table 10-1	Comparative Analysis of Remedial Alternatives by Balancing Criteria 10-2
Table 10-2	Remedial Alternatives Cost Comparison..... 10-4
Table 12-1	Cost Estimate Summary for Alternative 2 12-2
Table 13-1	Action-Specific ARARs..... 13-4

LIST OF FIGURES

Figure 1-1	Regional Location Map..... 1-2
Figure 1-2	Site 25 Location 1-2
Figure 1-3	Site 25 Parcel Delineation and Site Features 1-2
Figure 2-1	Location of Previous Time-Critical Removal Actions at Site 25.....2-6
Figure 5-1	Conceptual Site Model..... 5-6
Figure 6-1	Site 25 Reuse Map 6-2
Figure 12-1	Site 25 Institutional Control Boundary Delineation 12-2

APPENDICES

Appendix A	Administrative Record Index for Site 25 Soil
Appendix B	Public Notices
Appendix C	Proposed Plan Public Meeting
Appendix D	Responsiveness Summary

ABBREVIATIONS AND ACRONYMS

$\mu\text{g}/\text{m}^3$	micrograms per cubic meter
$\mu\text{g}/\text{L}$	micrograms per liter
$\mu\text{g}/\text{kg}$	micrograms per kilogram
ADD	average daily dose
AFWBZ	Alameda Formation water-bearing zone
AM	Action Memorandum
ARAR	Applicable or Relevant and Appropriate Requirement
Army	Department of the Army
ATSDR	Agency for Toxic Substance and Disease Registry
B(a)P	benzo[a]pyrene
BCT	BRAC Cleanup Team
bgs	below ground surface
BRAC	Base Realignment and Closure
Cal. Civ.	California Civil
Cal. Code Regs.	California Code of Regulations
Cal/EPA	California Environmental Protection Agency
CDM	Camp, Dresser, and McGee Federal Programs Corporation
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CERFA	Community Environmental Response Facilitation Act
CFR	Code of Federal Regulations
COC	chemical of concern
COPC	chemical of potential concern
CSF	cancer slope factor
CSM	conceptual site model
DA	Decision Area
DDT	Dichloro-Diphenyl-Trichloroethane
DoD	Department of Defense
DON	Department of the Navy
DTSC	Department of Toxic Substances Control

ABBREVIATIONS AND ACRONYMS

(Continued)

EBMUD	East Bay Municipal Utility District
EBS	Environmental Baseline Survey
EC	Engineering Control
EPA	U.S. Environmental Protection Agency
ERA	ecological risk assessment
EPC	exposure point concentration
ERRG	Engineering/Remediation Resources Group, Inc.
FFA	Federal Facility Agreement
FISCA	Fleet and Industrial Supply Center Oakland, Alameda Facility/Alameda Annex
FOD	frequency of detection
FOST	Finding of Suitability to Transfer
FS	Feasibility Study
ft	feet
FWBZ	first water-bearing zone
FWENC	Foster Wheeler Environmental Corporation
HEAST	Health Effects Assessment Summary Tables
HHRA	Human Health Risk Assessment
HI	hazard index
IC	institutional control
ID	identification
ILCR	incremental lifetime cancer risk
IR	Installation Restoration
IRIS	Integrated Risk Information System
IT	International Technology Corporation
LUC	Land Use Control
mg/kg	milligrams per kilogram
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NACIP	Navy Assessment and Control of Installation Pollutants

ABBREVIATIONS AND ACRONYMS

(Continued)

NAS	Naval Air Station
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
Neptune	Neptune and Company, Inc.
NPL	National Priority List
OEHHA	Office of Environmental Health Hazard Assessment
OU	Operable Unit
PAH	polynuclear aromatic hydrocarbon
PCB	polychlorinated biphenyl
PRC	PRC Environmental Management, Inc.
PRG	Preliminary Remediation Goal
RAB	Restoration Advisory Board
RAO	remedial action objective
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
RfD	reference dose
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
Shaw	Shaw Environmental, Inc.
SMP	Site Management Plan
SVOC	semivolatile organic compound
SWBZ	second water-bearing zone
SWMU	solid waste management unit
TBC	to be considered
TCRA	time-critical removal action
TPH-extractable	total extractable petroleum hydrocarbons
TPH-purgeable	total purgeable petroleum hydrocarbons
TtEMI	Tetra Tech EM, Inc.
UCL	upper confidence limit
U.S.	United States

ABBREVIATIONS AND ACRONYMS

(Continued)

U.S.C.	United States Code
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service
Versar	Versar, Inc.
VOC	volatile organic compound
Water Board	San Francisco Bay Water Board

DECLARATION

SITE NAME AND LOCATION

This decision document addresses soil at Installation Restoration Site 25 (Site 25) located east of Main Street at the former Naval Air Station (NAS) Alameda, now referred to as Alameda Point, in Alameda, California. The United States (U.S.) Environmental Protection Agency (EPA) Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) identification (ID) number is CA2170023236.

STATEMENT OF BASIS AND PURPOSE

This Record of Decision (ROD) presents the selected remedy, Alternative 2, to address soil at Site 25. Alternative 2 is institutional controls (ICs) and is the final remedy, which will secure the site and address potential long-term risks.

This document was developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986 (Title 42 United States Code Section 9601, et seq.), and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (Title 40 Code of Federal Regulations Part 300).

This decision is based on information contained in the Administrative Record file (a site-specific Administrative Record Index is included as Appendix A), as well as on extensive field investigations, laboratory analyses, interpretation of the data, evaluation of current and future conditions, and thorough assessment of the potential human health and ecological risks. Based on these findings, further action in the form of long-term ICs is required at Site 25.

Institutional controls are the final remedy for Site 25 soil consistent with the intended land use, and no further CERCLA response action is required. This ROD is intended to support all necessary remedial action required to support a Finding of Suitability to Transfer (FOST) determination.

The Department of the Navy (DON), the California Regional Water Quality Control Board (Water Board), San Francisco Region, the State of California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), and the EPA concur on the selected remedy for this site.

ASSESSMENT OF THE SITE

The DON, in coordination with the regulatory agencies, has concluded that ICs are appropriate to protect public health and the environment based on the following:

- Site histories
- Field investigations
- Laboratory analytical results
- Previous removal actions
- Evaluation of potential ecological and human health risks
- Current and reasonable anticipated future land use

Results of previous investigations indicate that polynuclear aromatic hydrocarbons (PAHs) in soil are the chemicals of concern for human health. Two soil removal actions were performed to address PAHs in the areas with the highest PAH concentrations and the likelihood for human exposure. Based on the removal actions already completed for the site, the carcinogenic risks for residential use associated with PAH exposures in soil are within the NCP Risk Management Range of 10^{-4} to 10^{-6} for soils between 0 and 4 feet below ground surface (bgs). Additionally, the non-carcinogenic risks as expressed by the hazard index (HI) are below 1.0. Metals are naturally occurring and were found at background concentrations at the site. No localized areas of metals concentrations were found that would indicate a DON source.

Additionally, the ecological risk assessment concluded that Site 25 supports only limited habitat, the presence of terrestrial receptors is limited, and future land uses would not create additional ecological habitat.

DESCRIPTION OF THE SELECTED REMEDY: ALTERNATIVE 2 – INSTITUTIONAL CONTROLS

This ROD documents the selection of Alternative 2 to address soil at the site. The remedy for Alternative 2 is ICs and will be implemented for all of Site 25. The purpose of the ICs is to limit human contact with soil that contains PAHs which may be harmful to human health. The ICs will require the future landowner to obtain written approval from the regulatory agencies and the DON and comply with a soil management plan for excavation of soil from depths greater than 4 feet and for major site work consisting of removal of buildings and hardscape, which includes structures, concrete or paved roadways, parking lots, foundations, and sidewalks. EPA and DTSC have indicated that for building removal and major site work, they will require the future landowner to enter into an enforceable agreement requiring the soil management plan that will

include both agencies, unless either agency in its discretion decides that its participation is not necessary.

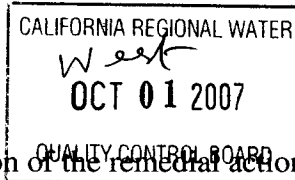
STATUTORY DETERMINATIONS

The selected remedy is protective of human health and the environment; complies with federal and state requirements that are legally applicable or relevant and appropriate to the selected remedy; and is cost-effective. The selected remedy will obviate the need for and satisfy the corrective action requirements of the Resource Conservation and Recovery Act (RCRA) or otherwise applicable State hazardous waste or water quality protection laws. Although, the selected remedy for Site 25 does not satisfy the statutory preference for treatment as a principal element of the remedy, it was chosen because both in situ and ex situ treatment methods were eliminated as potential alternatives in the Feasibility Study (CDM, 2005). Identified technologies were screened and determined to be of limited effectiveness, difficult to implement, and potentially very costly.

Because this remedy will result in hazardous substances, pollutants, or chemicals remaining on site above levels that will allow for unrestricted exposure, a statutory review will be conducted every five years after initiation of the remedy to ensure that the remedy is and will be protective of human health and the environment.

DATA CERTIFICATION CHECKLIST

Checklist Item	Description
Identification of chemicals of potential concern and their respective concentrations.	Chemicals of potential concern were identified for Site 25 based on data from numerous investigations. PAHs are the only chemicals of potential concern for site soils. A description of the previous investigation activities is provided in Section 2.0 of the ROD. A description of the nature and extent of contamination at Site 25 is presented in Section 5.3 of the ROD.
Risk assessments representative of the chemicals of potential concern.	A human health risk assessment (HHRA) was conducted for Site 25 that included multiple and comprehensive exposure pathways, including the consumption of homegrown produce, inhalation, and dermal contact. A screening-level ecological risk assessment also was conducted as part of the remedial investigation. These risk assessments used data representative of current conditions at Site 25. The results of these risk assessments are presented in Section 7.0 of this ROD.
Remedial levels established for chemicals of concern and the basis for these levels.	The ICs selected for soil in this ROD are necessary to protect the public health or the environment from actual or threatened releases of hazardous substances into the environment. The risk assessments are presented in Section 7.0 of this ROD, and the remedial levels are presented in Section 8.0.
How source materials constituting principal threats are addressed.	Based on previous investigations, the distribution of PAHs in soils supports the preliminary conceptual site model that PAHs are thought to have been placed at Site 25 with the fill material used to create the present-day land surface. Section 5.3 of the ROD describes the nature and extent of remaining contamination. Principal threat waste is presented in Section 11.0.
Current and reasonably anticipated future land use assumptions and current and potential beneficial uses of groundwater used in the baseline risk assessment and ROD.	The site includes a residential housing area (Parcel 181), Estuary Park (Parcel 182), and a housing maintenance office (Parcel 183). Future residential development may occur in Parcel 182. Based on the current and proposed future uses, the soil risks were evaluated to the residential standard for the HHRA. Although groundwater exposures were incorporated into the risk calculations for the HHRA, groundwater at the site is not expected to be used for domestic uses. Drinking water is supplied to Alameda Point by the East Bay Municipal Utility District. Land use and beneficial uses of groundwater are summarized in Section 6.0 of this ROD. Additionally, groundwater has been addressed separately within the OU-5/IR-02 Groundwater ROD.
Potential land and groundwater use that will be available at the site as a result of the selected remedy.	Potential land uses at the site are discussed in Sections 6.1 and 6.2 of the ROD. The expected land use at the site is residential. Soil excavation has been completed in several portions of the site and has reduced risk levels to within the National Contingency Plan Risk Management Range and below the HI for soils between 0 and 4 feet bgs. The establishment of ICs is the preferred remedy to minimize exposure risks for soils greater than 4 feet bgs and beneath buildings and hardscape.
Estimated capital, annual operation and maintenance, and total present worth costs, discount rate, and the number of years over which the remedy cost estimates are projected.	This ROD recommends Alternative 2 as the selected remedy for soil at the site. Section 12.0 of this ROD describes the selected alternative. Estimated capital and operation and maintenance costs are presented in Table 12-1.
Key factors that led to selecting the remedy.	Alternative 2 was selected in conjunction with the NCP criteria. Key factors that led to the selection of Alternative 2 include the protectiveness of human health, short-term effectiveness, low costs, and no increased exposure risk to site workers or local residents from fugitive dust emissions (from soil excavation and loading). Section 12.0 of this ROD describes the selected remedy, and Section 13.0 describes the statutory determinations made regarding the selected remedy. Section 14.0 documents that the DON has reviewed all written and oral comments submitted during the public comment period and has determined that no significant changes to the selected remedy are necessary or appropriate.



This signature sheet documents the Navy's and the EPA's co-selection of the remedial actions in this ROD for Site 25 at Alameda Point of institutional controls for soil, and the State of California, by the DTSC's and the Water Board's concurrence with this ROD. The respective parties may sign this sheet in counterparts.

AUTHORIZING SIGNATURES

9-24-2007

Signature

Date

Mr. Thomas L. Macchiarella
Base Realignment and Closure Environmental Coordinator
Base Realignment and Closure Program Management Office West
Department of the Navy

Signature

9/27/07

Date

Mr. Michael M. Montgomery
Chief, Superfund Federal Facilities and Site Cleanup Branch, Region 9
United States Environmental Protection Agency

The State of California, Department of Toxic Substances Control had an opportunity to review and comment on the Record of Decision, and DTSC's comments were addressed.

Signature

9-28-07

Date

Mr. Anthony Landis, P.E.
Chief, Northern California Operations,
Office of Military Facilities
California Environmental Protection Agency
Department of Toxic Substances Control

Signature

10/3/07

Date

Mr. Bruce H. Wolfe
Executive Officer
San Francisco Bay Water Board

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1.0 SITE NAME, LOCATION, AND DESCRIPTION

This Record of Decision (ROD) presents the selected remedy for soil at Installation Restoration (IR) Site 25 (Site 25). Site 25 is east of Main Street with access provided by Singleton Avenue on Alameda Point in Alameda, California. This ROD was developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986 (Title 42 United States Code [USC], Section 9601 et seq.) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (Title 40 Code of Federal Regulations [CFR] Part 300). The decision for this site is based on the information contained in the Administrative Record. The Administrative Record Index for this site is found in Appendix A, which includes documents that describe the results of extensive field investigations, laboratory analyses, interpretation of the data, review of current and future conditions, and thorough assessment of the potential human health and ecological risks at the site.

1.1 SITE NAME

This ROD addresses the Department of the Navy's (DON's) Selected Remedy for soil at Site 25. Site 25 was previously referred to as Operable Unit 5 (OU-5) in some reports, including the OU-5 Remedial Investigation (RI) (Neptune and Company, Inc. [Neptune], International Technology, Corporation [IT], and Environ, 2002) and OU-5 Feasibility Study (FS) (Camp, Dresser, and McGee [CDM] Federal Programs Corporation, 2005) reports. In some previous documents, such as the groundwater remedial investigation feasibility study (RI/FS (ERRG, 2004)) Site 25 was identified as all 3 OU-5 sites (IR Site 25, 30 and 31). Based on input from the U.S. Environmental Protection Agency (EPA) and to avoid confusion, the soil remedy for this site is now referred to as Site 25 soil.

1.2 SITE LOCATION

Site 25 is located on Alameda Point, within the former DON installation Naval Air Station (NAS) Alameda in Alameda, California. Alameda Point, located adjacent to the City of Oakland, in Alameda County, is roughly rectangular, about 2 miles long (east to west) and 1 mile wide (north to south), and occupies 1,734 acres. Alameda Point is located as the western tip of Alameda Island, which is surrounded by San Francisco Bay and the Oakland Inner Harbor (Figure 1-1). Site 25 is located east of Main Street on the northeast side of Alameda Point (Figure 1-2). The former Fleet and Industrial Supply Center Oakland, Alameda Facility/Alameda Annex (FISCA) is located to the north and east of Site 25.

1.3 SITE DESCRIPTION

Site 25 comprises approximately 42 acres. The following three parcels, as described in the Environmental Baseline Survey (EBS), (IT, 2001) are present within Site 25 (see Figure 1-3):

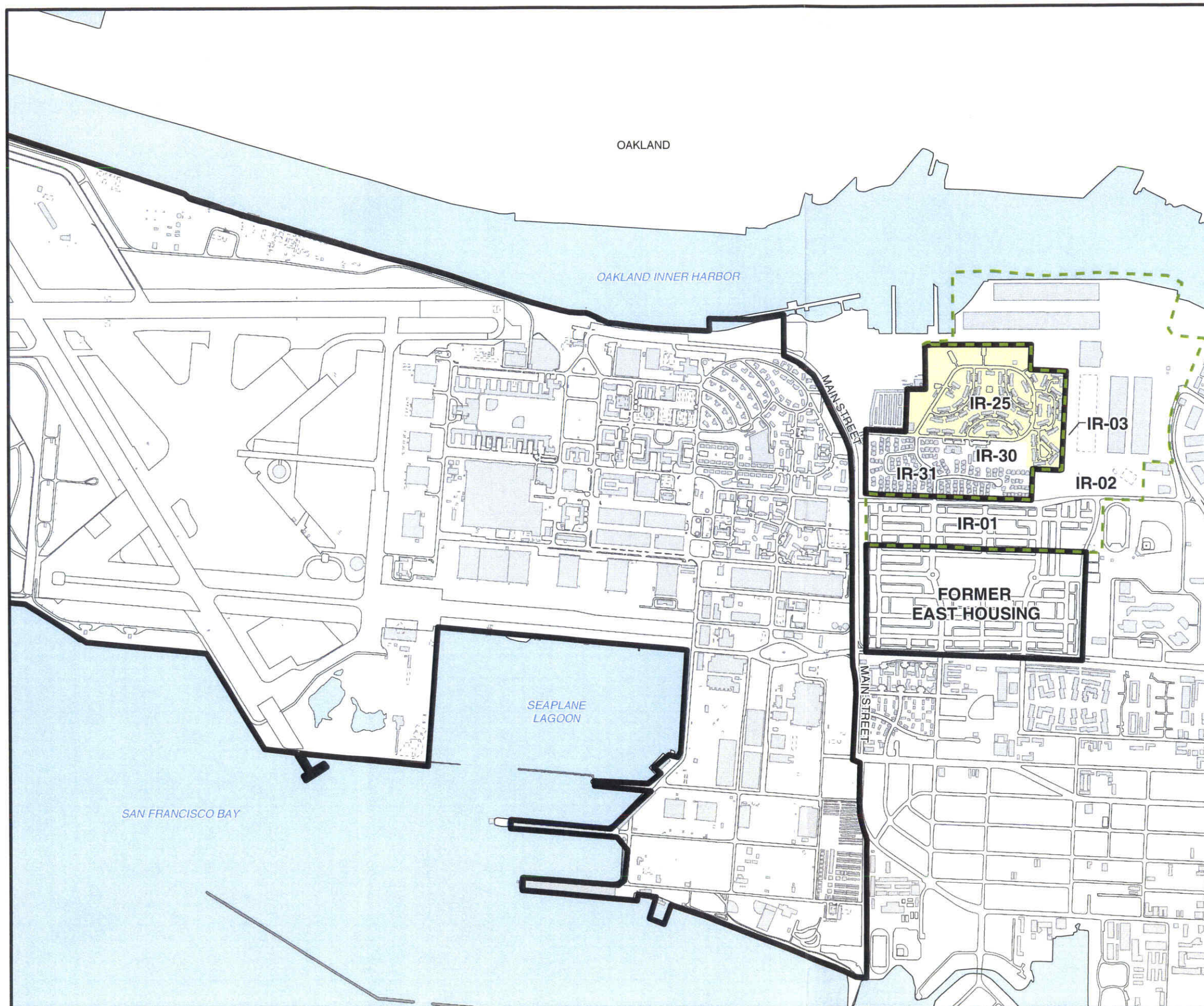
- Parcel 181 contains United States Coast Guard (USCG) North Village multi-unit housing structures, which are no longer occupied.
- Parcel 182 contains a park area.
- Parcel 183 contains Building 545, which is currently used by the USCG as a Housing Maintenance Office.

Soil beneath Site 25 is contaminated with polynuclear aromatic hydrocarbons (PAHs). The PAHs are not related to a DON release, but appear to be associated with contaminated fill placed at the site prior to the DON obtaining the property. The Soil RI report concluded that metals were found at concentrations consistent with background levels.

The historical land use at Site 25 was housing. As documented in the EBS (IT, 2001), Parcels 181, 182, and 183 contain no RCRA sites, underground storage tanks, or underground fuel lines.

No naturally occurring surface streams or ponds are located at Site 25. As specified in the groundwater RI/FS (ERRG, 2004), the groundwater beneath the southern one-third of the site contains chemicals and is part of a plume covering several IR sites. The OU-5/IR-02 plume is addressed by a separate ROD.





LEGEND

- ROAD/RUNWAY
- BUILDING
- WATER
- FISCA SITE BOUNDARY
- IR-25 SITE BOUNDARY
- ALAMEDA POINT BOUNDARY

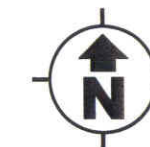
NOTES:

FISCA - FLEET AND INDUSTRIAL SUPPLY CENTER OAKLAND,
ALAMEDA FACILITY/ALAMEDA ANNEX

IR - INSTALLATION RESTORATION (PROGRAM)

NAS - NAVAL AIR STATION

600 0 600 1,200
Feet
Scale: 1" = 1200'



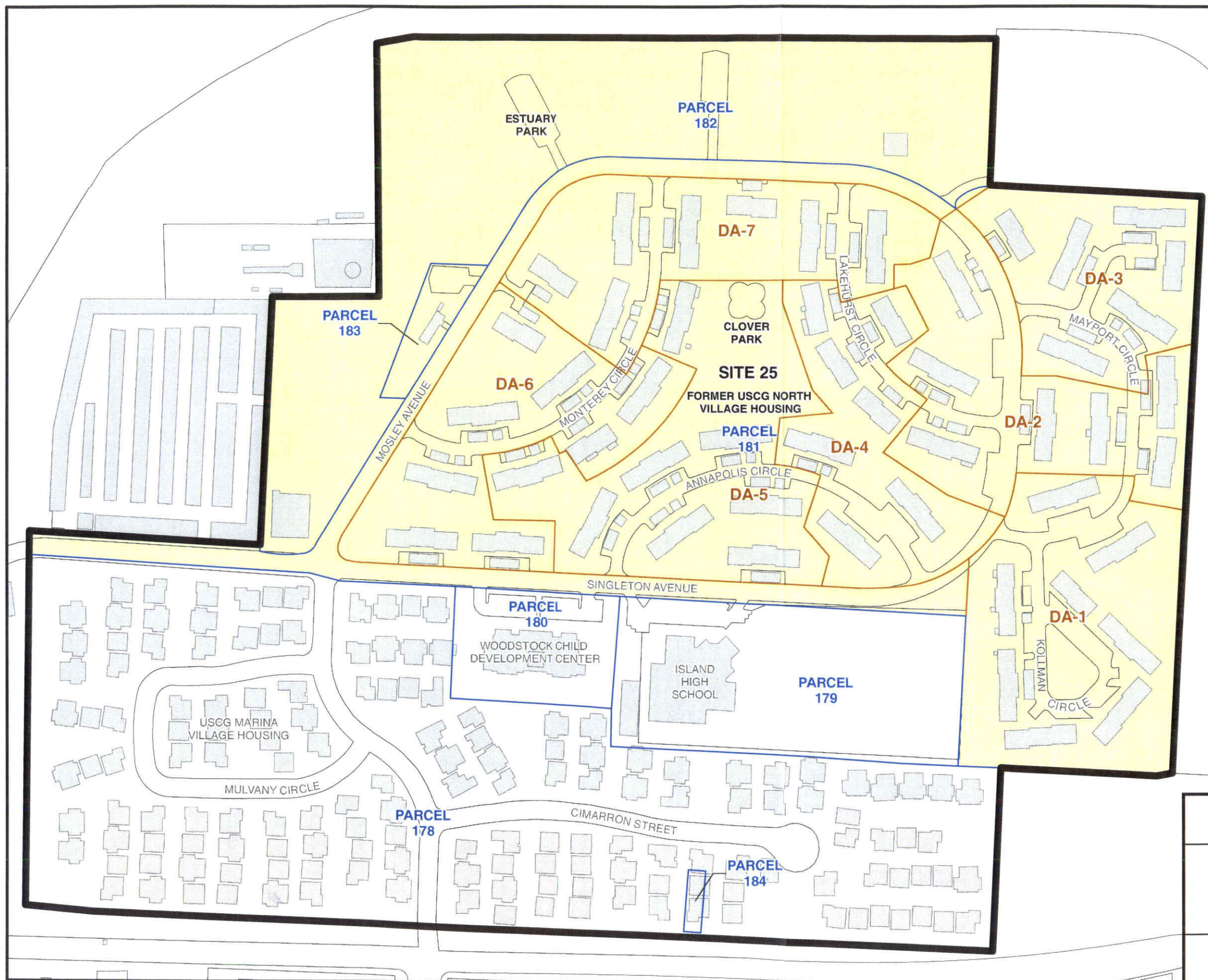
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CA

FINAL RECORD OF DECISION FOR SITE 25 SOIL,
FORMER NAS ALAMEDA

FIGURE 1-2
SITE 25 LOCATION
ALAMEDA, CALIFORNIA

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AUTHOR: GFG
DCN: ECSD-2201-0011-0003
FILE NUMBER: 070663S1989.mxd





LEGEND

- ROAD
- BUILDING
- DA-2 DECISION AREA BOUNDARY
- PARCEL 179 EBS PARCEL BOUNDARY
- SITE 25 BOUNDARY
- ALAMEDA POINT BOUNDARY

NOTES

- DA - DECISION AREA
- EBS - ENVIRONMENTAL BASELINE SURVEY
- NAS - NAVAL AIR STATION
- USCG - UNITED STATES COAST GUARD

100 0 100 200
Feet
Scale: 1" = 200'



BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CA

FINAL RECORD OF DECISION FOR SITE 25 SOIL,
FORMER NAS ALAMEDA

FIGURE 1-3
SITE 25 PARCEL DELINEATION AND SITE FEATURES
ALAMEDA, CALIFORNIA

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AUTHOR: GFG
DCN: ECSD-2201-0011-0003
FILE NUMBER: 070663L1984.mxd



2.0 SITE HISTORY AND ENFORCEMENT ACTIVITIES

This section summarizes the site history, key investigation activities, and removal actions conducted at Site 25.

2.1 SITE HISTORY

Alameda Point is located on the western tip of Alameda Island, which is on the eastern side of San Francisco Bay. Alameda Point is relatively flat land created by filling tidelands, marshlands, and sloughs between Oakland Inner Harbor and the western tip of Alameda Island. The fill material largely consisted of dredge from Oakland Inner Harbor and San Francisco Bay (IT, 2002).

In the late 1800s, the nearest land to Site 25 consisted of the "Alameda Mole," a railroad embankment that ran through marshland and intertidal areas. From the late 1800s until the 1920s, two manufactured gas plants and an oil refinery (Pacific Coast Oil Works), an asphalt pipe manufacturing plant, a soap company, a carriage factory, and other manufacturing businesses were located near the present-day Site 25 (Willard, 1988). These facilities may have discharged gas plant and refinery wastes along the sides of tidal channels and on the surface of marshlands near Site 25. As the marshlands and intertidal areas were filled in, these wastes became entrapped in the subsurface, creating what is now referred to as the Marsh Crust.

Subsequent filling actions have buried the Marsh Crust at depths ranging from 8 to 20 feet below ground surface (bgs) ([Neptune], 2002; PRC Environmental Management, Inc. [PRC] and Versar, Inc. [Versar], 1996). The fill material itself (i.e., material that overlies the Marsh Crust) consists mostly of dredged sediment from the Oakland Inner Harbor and San Francisco Bay. This sediment contains deposits of similar waste materials to that forming the Marsh Crust, and these deposits appear to have originated from the coal gasification plants, several of which were historically located in what is now Jack London Square.

As the sediment was dredged and used as fill on Alameda Point, the chemicals from the sediment were spread throughout the filled areas. Clear trends show that the areas filled first, Estuary Park and the northern portion of Site 25 North Housing, exhibit higher levels of PAH contamination, which stands to reason as the sediment dredged first had the highest levels of deposited PAH contamination.

The Site 25 history shows that the fill was in place by 1930, and most of the fill, particularly in the northern part of the site, was in place by 1919. Aerial photographs show that the Site 25 area,

which was not then part of NAS Alameda, was developed as housing in the 1940s. These houses remained through the mid-1960s.

The DON acquired the Site 25 area in two separate transactions in 1966 and 1968 for the purpose of housing. The northern part of the site was acquired in April 1966 and the eastern part of the site was acquired in March 1968. The DON constructed housing at Site 25 in 1969.

NAS Alameda was closed in April 1997, under the Base Realignment and Closure (BRAC) Act. The facility was designated as a National Priority List (NPL) site in July 1999 (U.S. Environmental Protection Agency [EPA], 1999). The listing of Alameda Point on the NPL invokes the applicable requirements of the NCP. The DON and EPA negotiated and signed a Federal Facility Agreement (FFA) in 2001 (DON, 2001), and DTSC and the Water Board signed it in 2005.

2.2 INVESTIGATION ACTIVITIES

The DON began investigations of contaminated sites in 1982 under the auspices of the DON Assessment and Control of Installation Pollutants (NACIP) program. The DON's procedures and priorities for conducting environmental investigations and cleanups have evolved, partly in response to events such as the closure of NAS Alameda in April 1997, under the BRAC enabling legislation, and the designation of Alameda Point as a NPL site in July 1999. When NAS Alameda was listed for closure, responsibility for the environmental cleanup program at Alameda Point passed to the BRAC Cleanup Team (BCT). The Alameda Point BCT consists of representatives from the DON, EPA, Water Board, and DTSC. The listing of Alameda Point on the NPL requires EPA concurrence prior to the final classification of any property as uncontaminated.

No enforcement activities have occurred in association with Site 25. Environmental investigation and removal activities associated with Site 25 are implemented under the DON's installation-wide environmental IR Program. The purpose of this program is to identify, investigate, assess, characterize, and cost-effectively clean up or control releases of hazardous substances to reduce the risk to human health and the environment. The program is administered in accordance with the following environmental laws:

- CERCLA, as amended by SARA, and the Community Environmental Response Facilitation Act (CERFA)
- Resource Conservation and Recovery Act (RCRA)

CERCLA generally applies to inactive sites where a hazardous substance is known or suspected to have been released into the environment. RCRA generally applies to active solid and

hazardous waste management facilities. RCRA also may apply to past solid waste management units (SWMUs) and/or areas of concern located on past hazardous waste management facilities. CERCLA and RCRA address the investigation and cleanup of contaminated property through slightly different, but functionally equivalent processes; therefore, regulatory authorities normally require the application of only one of the processes, when both CERCLA and RCRA apply to a single site. As documented in the EBS (IT, 2001), the site does not contain any RCRA sites, which is consistent with the sites historical use as housing.

A number of investigations have been conducted at Site 25, as well as two CERCLA removal actions. Removal actions and key investigations are summarized in Table 2-1. Additional information on CERCLA and EBS investigations follows. Section 2.3 summarizes the removal of actions.

2.2.1 CERCLA Investigation Activities

Sampling was conducted in the Site 25 area during several remedial investigations and other site investigations. It should be noted that in some previous documents, Site 25 was also referred to as OU-5. Key investigations are summarized below:

Final Operable Unit 5 Remedial Investigation Report, Alameda Point (Neptune et al., 2002):

This report provided information to expand upon previous investigations. It included the collection of subsurface soil, groundwater, and soil gas samples at Site 25. Analysis included several possible contaminants, specifically: PAHs, metals (including arsenic), and cyanide. Samples were homogenized over the following depth intervals: 0 to 0.5 feet bgs; 0.5 to 2.0 feet bgs; 2.0 to 4.0 feet bgs; and 4.0 to 8.0 feet bgs. The RI identified PAHs as the chemical of concern (COC) in soil. Metals are naturally occurring, and no localized areas of metals concentrations were found that would indicate a DON source, which is consistent with the historical use of the site for housing. The RI report concluded that metals were found at concentrations consistent with background levels.

During the soil RI, Parcel 181 was further divided into seven decision areas (DAs) that were identified as having distinct and different patterns in the distribution of PAHs. A statistical analysis was used to group data into areas that had the same range of PAH concentrations, balanced with neighborhood boundaries. These DAs were used during the 2001 and 2002 removal of the soil containing the highest PAH concentrations and to provide conservative estimates of potential human health risks. The RI focused on the evaluation of the HHRA by calculating the benzo(a)pyrene (B[a]P) equivalent concentration for carcinogenic PAHs.

Final Soil Feasibility Study Report, Operable Unit 5, Alameda Point, Alameda, California.
March (CDM, 2005):

The Final FS developed remedial alternatives for PAH-impacted soil at OU-5 that were compatible with the Alameda reuse plan for the site. The FS included performance of two new Human Health Risk Assessments (HHRAs) and revisions to the HHRA presented in the Site 25 RI. One new HHRA assessed risks from exposure to PAHs remaining in soil after completion of the time-critical removal action (TCRA). A second risk assessment was completed to evaluate the protectiveness of proposed removal actions in terms of health risk management.

2.2.2 RCRA Investigation Activities

As documented in the EBS (IT, 2001) there were no RCRA sites at IR Site 25.

2.2.3 EBS Investigation Activities

As mandated by BRAC, the DON conducted a series of base-wide investigations as part of the EBS. The objective of the EBS was to inventory the property, parcel by parcel, and identify known or suspected releases associated with historical or recent uses. No RCRA or petroleum activities were identified in the Site 25 area.

Environmental Baseline Survey, Data Evaluation Summaries – Final – Volumes I-XIV, NAS Alameda, California (IT, 2001): Between 1994 and 1995, soil, soil gas and groundwater samples were collected as part of the EBS for the Site 25 parcels. Fifteen soil gas samples were collected in Parcel 181 where there is housing. Benzene was not detected above project reporting limits in any of these soil gas samples. Five of the EBS soil samples collected at Site 25 were analyzed for pesticides/PCBs. No PCBs were detected. Pesticides were rarely detected. 4,4-DDT was detected in one soil sample collected in Parcel 181, at a concentration of 6.5J $\mu\text{g/kg}$, and endosulfan sulfate was detected in one soil sample at a concentration of 2JP $\mu\text{g/kg}$. Additional soil and groundwater sampling was recommended based on elevated concentrations of PAHs detected along the northern boundary of Parcel 182. Elevated PAHs were detected in soil sample 182-0004 during the Phase 2A EBS sampling, and in soil samples from the Phase 2B investigation to a depth of over 8 feet bgs. PAHs were also detected at low levels in groundwater.

2.3 PREVIOUS REMOVAL ACTIONS

The DON previously conducted two removal actions as the first part of the response action at Site 25. Specifically, within Parcel 181, a limited action was conducted in 2000, and a larger-scale TCRA was conducted in from 2001 to 2002. The DON removed over 66,700 cubic yards of

TABLE 2-1
SUMMARY OF REMOVAL ACTIONS AND INVESTIGATIVE ACTIVITIES

Date	Investigation/Activity	Objective	Summary of Findings
2000	TCRA for Clover Park Play Area in Site 25	Address health risk to children in play area from PAH-impacted soils by removal of upper 4 feet.	Soil was excavated to a depth of 4 feet and replaced with clean fill material.
2001	Environmental Baseline Survey, Zone 16: Housing Zone, Parcels 181, 182, 183	Parcel by parcel inventory of property to identify known or suspected releases associated with previous activities.	No RCRA or petroleum activities were identified in the Site 25 area. Soil gas sample results were non-detect for benzene. Groundwater samples indicated detections of SVOCs, and highest detected naphthalene of 1 mg/L.
2001, 2002	OU-5 Remedial Investigation	Characterize the nature and extent of contamination.	PAHs were identified as the contaminants of concern in soil. Metal concentrations in the soil were consistent with background.
2001, 2002	TCRA for USCG North Village Housing and Estuary Park in Site 25	Address health risk from PAH-impacted soils by removal of upper 2 feet of soil in areas with highest PAH concentrations.	Soil was excavated in selected areas without hardscape to a depth of 2 feet below surface, orange plastic fencing was placed, and the soil was replaced with clean fill. A total of 38 trees were removed.
2005	Soil Feasibility Study, OU-5/ Site 25, Parcels 181, 182, 183	Evaluate post-TCRA risk and develop and compare remedial alternatives for PAH-impacted soil, which are compatible with the site reuse plan.	Risk assessment was conducted, including post-TCRA risk for removal action areas. Soil risks for current and future residential use are in the risk management range for all decision areas for soil from the surface to 4 feet below surface. The cumulative soil plus groundwater risk was determined to be equal to risk and hazard for groundwater. Three alternatives were evaluated in detail.

Abbreviations and Acronyms:

HHRA – Human Health Risk Assessment
 IR – Installation Restoration
 mg/L – milligram per liter
 OU – Operable Unit
 PAH – polynuclear aromatic hydrocarbon

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RCRA – Resource Conservation and Recovery Act
 SVOC – semivolatile organic compound
 TCRA – time-critical removal action
 USCG – United States Coast Guard

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PAH-contaminated soil from the upper 2 feet of approximately 26 acres where the PAH concentrations were the highest. Post-removal evaluations of the soil testing results show no current risk to children or adults in these areas. Additional discussion of risk is presented in Section 7.0. Figure 2-1 indicates the location of the TCRA's. Details of these removal actions are as follows.

2.3.1 Clover Park

In October 2000, soil with elevated levels of PAHs was removed from the Clover Park play area at Site 25 (Parcel 181). The park is a clover leaf-shaped play area, approximately 45 by 45 feet, edged by a concrete berm and filled with imported sand.

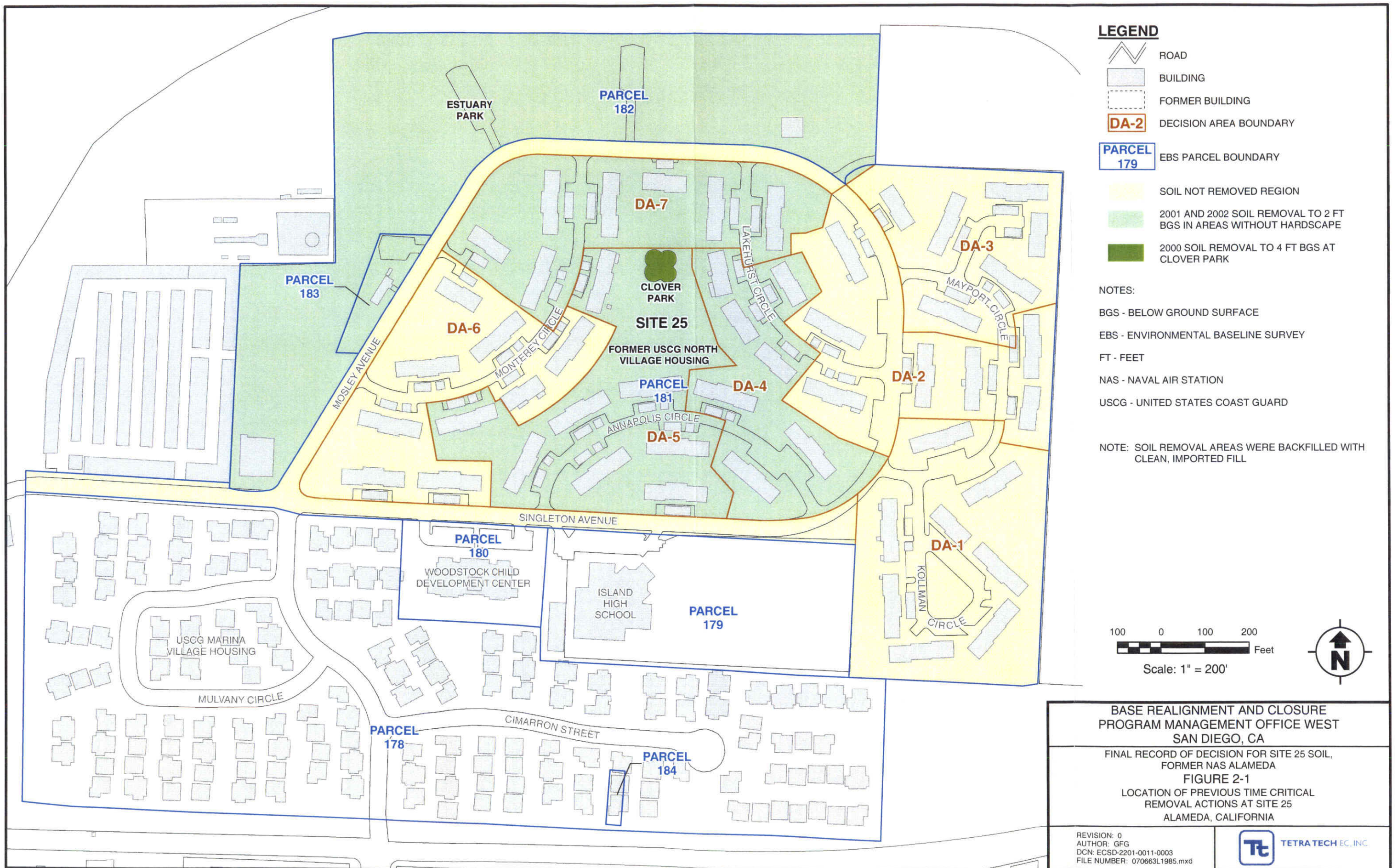
To eliminate risk to children in the play area, soils within the play area were excavated to a depth of 4 feet and transported off-site to an approved landfill. An estimated 900 cubic yards of soil were removed. A high-density polyethylene liner was placed in the bottom of the excavation and covered with clean fill from 4 feet bgs to 1.25 feet bgs. Orange-colored fencing material was placed at the bottom of the excavation to denote the PAH excavation subgrade as well as the extent of clean fill placement. Pea gravel was then placed from 1 to 1.25 feet bgs. Fall zone material was placed from 1 foot bgs to final grade by the USCG, followed by the installation of a new play structure.

2.3.2 Site 25 USCG North Village Housing and Estuary Park Areas

Based on the results of the 2001 RI, a TCRA occurred from winter 2001 to spring 2002 to remove soils with elevated concentrations of PAHs to a depth of 2 feet bgs from the Site 25 USCG North Village Housing and Estuary Park areas (Parcels 181 and 182). An excavated depth of 2 vertical feet was selected because it would protect the residents, did not interfere with utilities located at 3 feet and below, and was not cost prohibitive. A 1.8 milligrams per kilogram (mg/kg) action level for PAHs was used as a value to identify and prioritize the DAs that required soil removal. Removal was conducted in DAs 4, 5, and 7 and Parcels 182 and 183 because these areas had the greatest number of samples with concentrations of PAHs over 1.8 mg/kg in the upper 2 feet of soil. The removal action excavated all soil in the upper 2 feet of areas without buildings or hardscape¹ for DAs 4, 5, and 7 and Parcels 182 and 183, resulting in a total excavation area of approximately 26 acres. Removal involved excavation of 66,763 cubic yards of soil. Orange-colored fencing material was placed at the bottom of the excavations to denote the PAH excavation subgrade as well as the extent of clean fill placement. The area was then backfilled with clean imported fill, topsoil, and sod.

¹ Hardscape refers to parking areas, sidewalks, roads, and other hard surfaces at Site 25.

During the TCRA, all trees with a 6-inch or less diameter were removed. A total of 38 trees were removed. For trees of larger diameter, in areas with high PAH concentrations, the soil was excavated from among the roots to a depth of 6 to 8 inches. The excavated soil was then replaced with clean fill.



3.0 COMMUNITY PARTICIPATION

A Community Relations Plan for Alameda Point was developed to document interests, issues, and concerns raised by the community regarding ongoing investigation and cleanup activities and to describe a specific community relations program designed to address community issues and concerns (TtEMI, 2003). The Alameda Point initial plan was prepared in February 1989 and was revised most recently in 2003. The revisions incorporated the most recent assessment of community issues, concerns, and informational needs related to the ongoing environmental investigation and remediation program at Alameda Point.

3.1 RESTORATION ADVISORY BOARD

In 1993, individuals from local communities began to play an increasingly significant role in the environmental restoration process with the establishment of the Alameda Point Restoration Advisory Board (RAB). Original membership in the board was solicited by the DON through newspaper notices, including business and homeowners' representatives, residents, local elected officials, and regulatory agency staff.

The RAB currently consists of members of the DON, the community, and regulatory agencies. The RAB meetings occur monthly and are open to the public. Meetings are held in the evenings after normal working hours on the first Thursday of each month at Building 1, Room 140, at 950 West Mall Square at Alameda Point. RAB members review and comment on technical documents.

The DON and regulators report information about Site 25, including the availability of site documents, to the RAB members during the monthly RAB meetings. Copies of the RAB meeting minutes and documents describing environmental investigations and removal actions are available at the following Alameda Point information repository and Administrative Record file locations:

Alameda Point Information Repository
950 West Mall Square
Building 1, Room 240
Alameda, California 94501

Administrative Record
Naval Facilities Engineering Command, Southwest
937 Harbor Drive, Building 1, 3rd Floor
San Diego, California 92132

In addition, the new Alameda public library will maintain new Navy environmental documents during review periods. The Alameda public library is located at 1550 Oak Street, Alameda, CA 94501. RAB meeting minutes also are available at the DON BRAC Program Management Office website at <http://www.bracpmo.navy.mil>.

3.2 PUBLIC MAILINGS

Public mailings, including information updates, fact sheets, and Proposed Plans, have been used to ensure a broad distribution of information throughout the local community. Since March 1990, information updates announcing the Site 25 program process have been delivered to residents living near Alameda Point and FISCA and mailed to city, state, and federal officials; agencies; local groups; and individuals identified in the Community Relations Plan (TtEMI, 2003). Updates and fact sheets have included information concerning the status of environmental investigations; removal activities; the upcoming remedy selection process; ways the public can participate in the investigation and remediation; the history and geology of the area; and the availability of the Administrative Record for Alameda Point. Proposed Plans provide an overview of environmental investigation results (including ERA and HHRA results); remedial alternatives for a site or group of sites; and present the preferred alternative. The updates, fact sheets, and Proposed Plans are mailed to between 400 and 1,400 households, businesses, public officials, and agencies in an effort to reach community members. Alameda Point updates, fact sheets, and the Proposed Plan related to Site 25 are summarized in Table 3-1.

3.3 COMMUNITY PARTICIPATION FOR SITE 25

The *Soil Feasibility Study, Operable Unit 5, Alameda Point* (CDM, 2005) was finalized in March 2005. The Proposed Plan for Site 25 Soil (DON, 2006a) was released to the public in August 2006 at the beginning of the public comment period to provide information and solicit public input on the DON's recommended action. These documents are available to the public at the information repository maintained at Alameda Point and at the Administrative Record file. The information repository also contains a complete index of the Administrative Record file (Appendix A); along with information about how to access the complete file at the Naval Facilities Engineering Command, Southwest, located in San Diego, California.

A 30-day public comment period for the Site 25 Proposed Plan extended from August 21 through September 20, 2006. In addition, a public meeting was held on September 12, 2006. A notice of the public comment period and public meeting was published in the *Alameda Journal* and in the *Oakland Tribune*. The Public Notices are presented in Appendix B.

At the public meeting, the BRAC Environmental Coordinator and DON Remedial Project Manager gave presentations on the conditions at Site 25, described the selected remedy, and

TABLE 3-1

**SUMMARY OF ALAMEDA POINT FACT SHEETS, NEWSLETTERS,
PUBLIC NOTICES, AND PROPOSED PLAN RELATED TO SITE 25 SOIL**

Reference	Title
DON, 1990a	Fact Sheet 1: Remedial Investigation/Feasibility Study Update
DON, 1990b	Fact Sheet 2: Remedial Investigation/Feasibility Study Update
DON, 1991	Fact Sheet 3: Remedial Investigation/Feasibility Study Update
DON, 1993	Fact Sheet 4: Installation Restoration Program Update
DON, 1995	Fact Sheet 5: BRAC Cleanup Plan
DON, 1996a	Fact Sheet 7: History and Geology
DON, 2001	Meetings during October and November with representatives from schools and Coast Guard Housing (no fact sheets provided)
DON, 2002	Public Notices for availability and public comment period on Action Memorandum for Site 25 TCRA
DON, 2002a	Public Notices for availability and public comment period on Action Memorandum Addendum for Site 25 TCRA
DON, 2003a	Information Sheet for TCRA at West Housing Area
DON, 2003b	Alameda Point Focus Environmental July 2003 Newsletter
DON, 2004	DON's Environmental Activities at Alameda Point March 2004 Newsletter
DON, 2005	Alameda Point Focus Environmental February 2005 Newsletter
DON, 2006b	Final Proposed Plan for Installation Restoration Site 25 Soil, Former NAS Alameda

Abbreviations and Acronyms:

BRAC – Base Realignment and Closure

DON – Department of the Navy

TCRA – Time-Critical Removal Action

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representatives from the DON and environmental regulatory agencies were available to answer questions. A court reporter prepared a transcript of the meeting (Appendix C). Responses to comments received during the public comment period are included in the Responsiveness Summary as part of this ROD (Appendix D).

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4.0 SCOPE AND ROLE OF OPERABLE UNIT AND RESPONSE ACTION

This ROD addresses soil at Parcels 181, 182, and 183 at Alameda Point. Because PAHs were present in soil across all of the parcels mentioned above and are considered to have a common source, they were grouped into Site 25 to best facilitate the CERCLA response.

Two TCRAs were previously conducted at Site 25 in order to address surface and near-surface soil risks. The first removal action occurred at the Clover Park Play Area, the second occurred within portions of USCG North Village Housing and Estuary Park Areas. These removal actions were conducted based on the results of the Site 25 RI (Neptune, 2002). The selected remedy presented within this ROD addresses the remaining soil PAH contamination at Site 25. The source of this contamination is believed to be contaminated fill used to create Alameda Point.

Site 25 was previously referred to as OU-5 in certain documents within the administrative record, including the RI and FS reports. Based on input from the EPA and to avoid confusion, the soil remedy for this site is now referred to as Site 25 soil, and the groundwater remedy for Site 25 and other adjacent areas is referred to as Operable Unit 5/IR-02 Groundwater and is being addressed under a separate ROD.

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5.0 SITE CHARACTERISTICS

This section summarizes information on the geology, hydrogeology, and the chemicals present in the soil at Site 25. A complete discussion of sampling locations and methodologies, chemicals detected at each site, nature and extent of contamination, fate and transport, and evaluation of human and ecological risks is presented in the Soil Feasibility Study Report (CDM, 2005). A description of the site is presented in Section 1.3.

5.1 GEOLOGY

The site is located along the eastern San Francisco Bay (East Bay Margin), which occupies a depression between two uplifted areas: the Berkeley Hills, approximately 10 miles east of the site, and the Montara Mountains (and others) to the west. The depression and uplifted areas were formed by two sub-parallel, active faults: the San Andreas Fault west of San Francisco Bay and the Hayward Fault east of San Francisco Bay. The San Andreas Fault is approximately 12 miles west of Site 25, and the Hayward Fault is approximately 5 miles east of Site 25. Hickenbottom and Muir have described the geology of the eastern San Francisco Bay (Hickenbottom and Muir, 1988). The *Final Determination of Beneficial Uses of Groundwater Evaluation* (TtEMI, 2000b), describes two geological units within the shallow water-bearing zone: shallow fill found in the uppermost 10 to 20 feet bgs and the underlying native sediment material that includes the Bay Mud and Merritt Sand Formation.

Surface and near-surface soil at Site 25 consists of artificial fill placed during the historical filling of the tidal marshlands, which occurred from approximately 1900 to 1930. The fill is present in the northern portion of Site 25 from land surface to approximately 10 feet bgs and in the southern portion from land surface to approximately 20 feet bgs. The site was formerly marshland and San Francisco Bay intertidal area (the northern portion of the site previously contained an outcropping of land). Affected groundwater is located primarily within the artificial fill. No archaeological or historical resources are associated with the artificial fill (ERRG, 2004).

Fill material at the site is a heterogeneous, laterally discontinuous mixture of poorly graded, fine- to medium-grained sand, clay, and silt mixed with some construction debris and organic material. The artificial fill materials are believed to be dredged spoils from the tidal flats in the surrounding San Francisco Bay and the Oakland Inner Harbor. The thickness of the fill is probably most influenced by the presence of historical tidal channels that once transected the tidal flats. A layer with high organic content, called the "Marsh Crust," typically marks the top of the Bay Mud throughout the site and is typically encountered between 18 and 20 feet bgs (Neptune et al., 2002). The Marsh Crust is a layer of contaminated sediment that was formed by the discharge of gas plant and refinery waste from two gas plants and an oil refinery. This waste

migrated over much of the surface of the surrounding marshlands and was deposited through tidal actions under what would later become FISCA and the eastern portion of Alameda Point.

The Bay Mud layer underlying the site fill material ranges in thickness from 25 to 100 feet (PRC and Versar, 1996) and consists of recent sediment deposited in an estuarine environment. The Bay Mud is thickest at the west side of the site and thins to approximately 25 feet at the northeastern and southeastern regions of the site (PRC, 1993). The Bay Mud generally consists of gray to black, medium- to high-plasticity silty clay with laterally discontinuous, poorly graded silty and clayey sand layers. Though thin lenses of fine sand have also been observed, no extensive sand layers have been observed within the Bay Mud.

The Merritt Sand Formation underlies the Bay Mud throughout the site. The Merritt Sand Formation is composed of brown, fine- to medium-grained, poorly graded sand and is generally laterally continuous throughout the site, except where it is bisected by a major paleochannel filled with thicker deposits of the Bay Mud. The Merritt Sand Formation is found below the Bay Mud at depths as great as 135 feet bgs across Alameda Point; however, the thickness of the formation is unknown beneath the site.

5.2 HYDROGEOLOGY

Contamination is located in the fill material above the Bay Mud, which constitutes the shallow, unconfined first water-bearing zone (FWBZ) beneath the site. The Bay Mud under the FWBZ forms an aquitard between the shallow groundwater and the Merritt Sand, which composes much of the deeper, confined aquifer beneath the facility (PRC and Versar, 1996).

Two primary regional aquifers have been identified beneath the site: the Merritt Sand aquifer, which is sometimes referred to as the second water-bearing zone (SWBZ); and the deeper Alameda aquifer, which is referred to as the Alameda Formation water-bearing zone (AFWBZ). The groundwater management subarea, containing the Merritt Sand and the Alameda aquifer, is referred to as the Oakland Upland and Alluvial Plain Management Subarea (PRC and Versar, 1996).

The saturated thickness of the FWBZ averages approximately 10 feet beneath the site, and the depth to groundwater ranges from approximately 2 to 10 feet bgs (IT, 2002; Shaw, 2004b). The elevation of the water table in the FWBZ ranges from 3 to 8 feet above mean sea level (Shaw, 2004a and 2004b).

Ongoing groundwater monitoring programs continue to investigate the depth to groundwater, as well as other groundwater characteristics. Groundwater flow direction in the FWBZ is highly variable beneath the site. Groundwater generally has been reported to flow in a north to northwest direction, toward the Oakland Inner Harbor (PRC and Versar, 1996; TtEMI, 1999b;

IT, 2002). However, groundwater contour maps indicate a high level of local variability. The local variation is likely due primarily to the variations in permeability of the shallow aquifer fill material (ERRG, 2004).

Two tidal influence studies were conducted for the nearby FISCA site (PRC, 1993; PRC and Versar, 1996). The results of these studies indicate that maximum groundwater fluctuations in the measured wells ranged from 0.059 to 1.1 feet, while the maximum tidal fluctuations in the Oakland Inner Harbor ranged from 6.1 to 6.9 feet. The greatest fluctuations were from wells that were screened in higher-permeability materials (PRC and Versar, 1996). Localized, higher-permeability areas appear to exist outside identified historic tidal channels (PRC and Versar, 1996). Shallow groundwater level fluctuations during the daily tidal cycle are expected because the FWBZ is hydraulically connected to the Oakland Inner Harbor. The groundwater level fluctuations reflect a temporary shift in the groundwater flow direction that changes direction during the daily tidal cycle, but does not affect the average groundwater flow direction north to northwest toward the Oakland Inner Harbor. In addition, the tidal influence exhibited by shallow monitoring wells reflects the hydraulic response based on the changing tide and does not represent active mixing of the groundwater underlying the site with the Oakland Inner Harbor (ERRG, 2004).

The Bay Sediment Unit, a layer of silts and clays, acts as a confining or semiconfining layer separating the FWBZ from the SWBZ. Recharge of the SWBZ is mainly by lateral flow from upgradient areas on Alameda Island. The SWBZ is believed to discharge through lateral groundwater flow to the San Francisco Bay, Oakland Inner Harbor, and Seaplane Lagoon. Gradients tend to be steeper at low tide, and reverse at high tide in some areas (IT, 2002).

The top of the AFWBZ at the site is approximately 100 feet bgs and the aquifer ranges in thickness from 200 to 800 feet. The San Antonio aquitard, which includes the Yerba Buena Mud and a thin, upper clay-rich portion of the Alameda Formation separates the AFWBZ from the SWBZ. Little is known about the hydraulic properties of the AFWBZ.

Groundwater in the FWBZ beneath Site 25 is not currently used for drinking water, irrigation, or industrial source. Drinking water is supplied to Alameda Point by the East Bay Municipal Utility District.

5.3 NATURE AND EXTENT OF SOIL CONTAMINATION

During previous site investigations, the following analytes were detected in soil at Site 25 (CDM, 2005):

- PAHs
- Metals and cyanide

Evaluation of the listed analytes indicated that metals and cyanide are present at background levels. PAHs were reviewed as part of the HHRA, which is summarized in Section 7.0 (CDM, 2005). Additional details on chemicals of potential concern (COPC) selection are presented in Section 7.0. The extent of contamination in soil from these constituents is discussed further in the following sections.

5.3.1 Extent of PAHs in Soil

In previous assessments, all 16 PAHs analyzed were detected in soils at Site 25 (CDM, 2005). The detected carcinogenic PAHs were conservatively evaluated as B(a)P-equivalents to facilitate risk assessment evaluations (Section 7.1.3). Although B(a)P-equivalent concentrations varied considerably in small or localized areas examined across the site and among depth intervals from the same boring, a pattern of detections was discernible. In general, concentrations of PAHs within the boundaries of the site decrease from north to south-southeast and increase from the surface to depths approaching the surface of the historical marsh. Although a vertical concentration profile which decreases with depth and a horizontal pattern that decreases in concentration away from a release point would be expected, the B(a)P-equivalent concentrations at Site 25 increase with depth and are generally distributed throughout the site. This distribution of PAHs in soils supports the conceptual site model (CSM) that PAHs are thought to have been placed at Site 25 with the fill material that was used to create the present day land surface. Based on the higher detections at greater depths, it is apparent that the earlier fill material was more highly impacted with PAHs.

As discussed in Section 2.0, the DON conducted two TCRAs to remove soil from areas with the highest concentrations of PAHs and the greatest likelihood for human exposure. The removal areas are shown in Figure 2-1. In 2001, the DON removed PAH-impacted soil from the Clover Park Play Area to a depth of 4 feet bgs. In 2001 and 2002, the DON additionally removed PAH-impacted soil from non-hardscaped areas to a depth of 2 feet bgs from Estuary Park, Parcel 181 (DAs 4, 5, and 7) and Parcels 182 and 183. Following the removal action, the average B(a)P-equivalent value in the upper 2 feet of soil throughout Site 25 is 0.4 mg/kg.

As is presented in Section 7.0, post-removal evaluations indicate that no current risk exists to children or adults at Site 25 from surface to 4 feet at the site.

5.3.2 Extent of Metals and Cyanide in Soil

Based on statistical analyses performed from site assessment data, the detected metals concentrations are consistent with background levels and are therefore believed to be naturally occurring (CDM, 2005). Additionally, no localized areas of metals concentrations were found that would indicate a DON source.

Cyanide was detected in 1 of 146 samples at a concentration of 3.6 mg/kg, which is over two orders of magnitude below the EPA Region IX 2004 PRG of 1,200 mg/kg. Therefore, cyanide was not considered further in the RI HHRA.

Based on the above, metals and cyanide were not identified as COPCs in soil. PAHs were identified as the COPC and were retained as the primary risk drivers for the site (Table 5-1).

5.4 CONCEPTUAL SITE MODEL

Several historical industrial operations were located in the vicinity of present-day Alameda Point. During the late 1800s and up until the 1920s, two manufactured gas plants and an oil refinery (Pacific Coast Oil Works), an asphalt pipe manufacturing plant, a soap company, and a carriage company were located near what is now Site 25. These facilities may have discharged gas plant and refinery wastes, which were deposited in the surrounding tidal channels and marshes under what is now Alameda Point. The petroleum wastes trapped in the tidal channels and marshes formed a layer over which artificial fill material was later placed to form Alameda Point. This trapped layer is referred to as the Marsh Crust, varies from a few inches to a foot in thickness, and is found between 8 and 20 feet below ground surface beneath approximately half of Alameda Point.

In addition to depositing wastes in the tidal channels and marshlands, the petroleum wastes and other wastes are believed to have been deposited onto the sediments in Oakland Inner Harbor and the surrounding San Francisco Bay. When dredge and fill events began in the late 1800s it is thought that the petroleum contaminated sediments from the Oakland Inner Harbor and the surrounding Bay were used to fill in what is now Site 25 and the adjacent areas. The sediment dredged up first was the most contaminated and, according to maps depicting the fill history of Alameda Point, was placed in the northern portion of Site 25. As fill operations continued, deeper and deeper dredging occurred to acquire the fill material, and the deeper sediment contained little to no contamination. Thus, as Alameda Point was progressively filled using the deeper dredged sediment, the fill material contained less and less PAHs. This trend is clearly depicted when PAH concentrations in the artificial fill areas are tracked over the extent of Alameda Point. It is also apparent that the area of Site 25 filled first contains the highest concentrations of PAHs and that the concentrations lessen with later filling events. Thus, the

concentrations of PAHs within Site 25 decrease from north to south-southeast and decrease from depth to surface.

A comprehensive graphic representation of the Site 25 Conceptual Site Model is shown on Figure 5-1.

TABLE 5-1
CHEMICALS OF CONCERN DETECTED IN SOIL¹

Chemical	Frequency of Detection	Range of Reporting Limits	Range of Detected Concentrations
Polycyclic Aromatic Hydrocarbons (µg/kg)			
2-methylnaphthalene	11%	350 to 3,800	210 to 210
acenaphthene	8%	26 to 120,000	15 to 7,800
acenaphthylene	17%	21 to 11,000	10 to 69,000
anthracene	77%	2.1 to 3,800	1 to 89,000
benzo(a)anthracene	96%	2.4 to 3,800	2.4 to 100,000
benzo(a)pyrene	97%	2.1 to 3,800	2.6 to 130,000
benzo(b)fluoranthene	97%	2.4 to 3,800	2 to 110,000
benzo(ghi)perylene	96%	2 to 3,800	6.8 to 79,000
benzo(k)fluoranthene	95%	2.1 to 3,800	2.4 to 36,000
carbazole	11%	350 to 3,800	1,100 to 1,100
chrysene	94%	2.4 to 18,000	4 to 99,000
dibenzo(ah)anthracene	67%	5.2 to 24,000	2.3 to 12,000
dibenzofuran	11%	350 to 3,800	88 to 88
fluoranthene	97%	2.4 to 3,800	3 to 750,000
fluorene	15%	2.1 to 3,800	2 to 36,300
indeno(123-cd)pyrene	96%	2 to 21,000	6.5 to 94,000
naphthalene	10%	26 to 19,000	14 to 140,000
phenanthrene	94%	2.1 to 3,800	3.1 to 580,000
pyrene	97%	2.4 to 3,800	3 to 470,000
BaP Equivalent	98%	5 to 60	4 to 146,041

Notes:

¹ Data obtained from RI (Neptune et al., 2002) and EBS (IT, 2001)

Abbreviations and Acronyms:

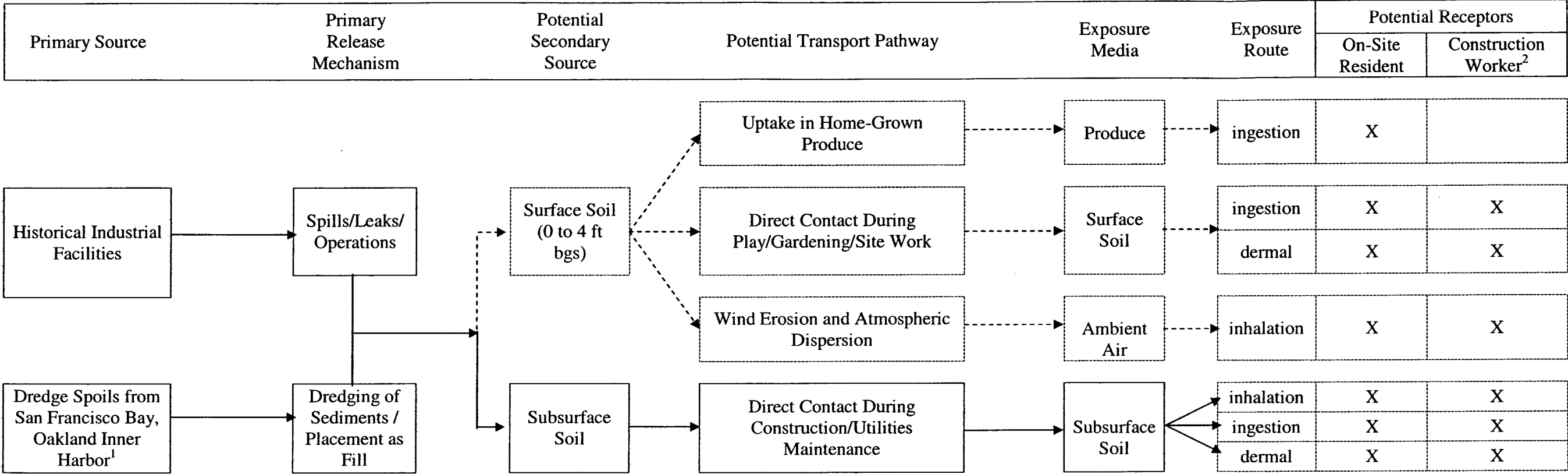
µg/kg – micrograms per kilogram

EBS – Environmental Baseline Survey

RI – Remedial Investigation

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FIGURE 5-1
CONCEPTUAL SITE MODEL



Notes:

-----> = Cancer risks within NCP Risk Management Range and noncancer Hazard Index below 1 for pathways shown with the dashed line

————> = After the remedy is implemented; exposure to contaminated soil via pathways shown with the solid line will be eliminated

¹ Likely contaminated by non-point source runoff and other unknown sources

² Parcels 182 and 183 only

Groundwater is not evaluated as part of the ROD

Abbreviations and Acronyms:

ft bgs – feet below ground surface

HHRA – human health risk assessment

NCP – National Contingency Plan

Reference: CDM, 2005

6.0 CURRENT AND POTENTIAL FUTURE SITE AND RESOURCE USES

This section discusses (1) current and reasonably anticipated future land uses and (2) current and potential groundwater and surface water uses. This information was incorporated into the development of exposure scenarios for the HHRA.

6.1 CURRENT AND FUTURE LAND USES FOR SITE 25

Under the Alameda Point General Development Plan, as amended in 2003, Chapter 9, Figure 9-2 (City of Alameda, 2003) the proposed land use for the Site 25 area includes residential use. Site 25, which currently is federal property managed by DON, consists of three parcels (181, 182, and 183). Site 25 consists of multiple-unit housing structures, open space park areas, and the USCG Housing Maintenance Office. Future land usage is expected to remain residential for all three parcels within Site 25. Figure 6-1 shows the proposed future land use designation.

6.2 CURRENT USES OF ADJACENT LAND

Land adjacent to Site 25 consists of Alameda Point Sites 30 and 31 as well as FISCA IR Sites 01, 02, and 03. As discussed in the OU-5/IR-02 ROD, current usage for the surrounding sites is as follows:

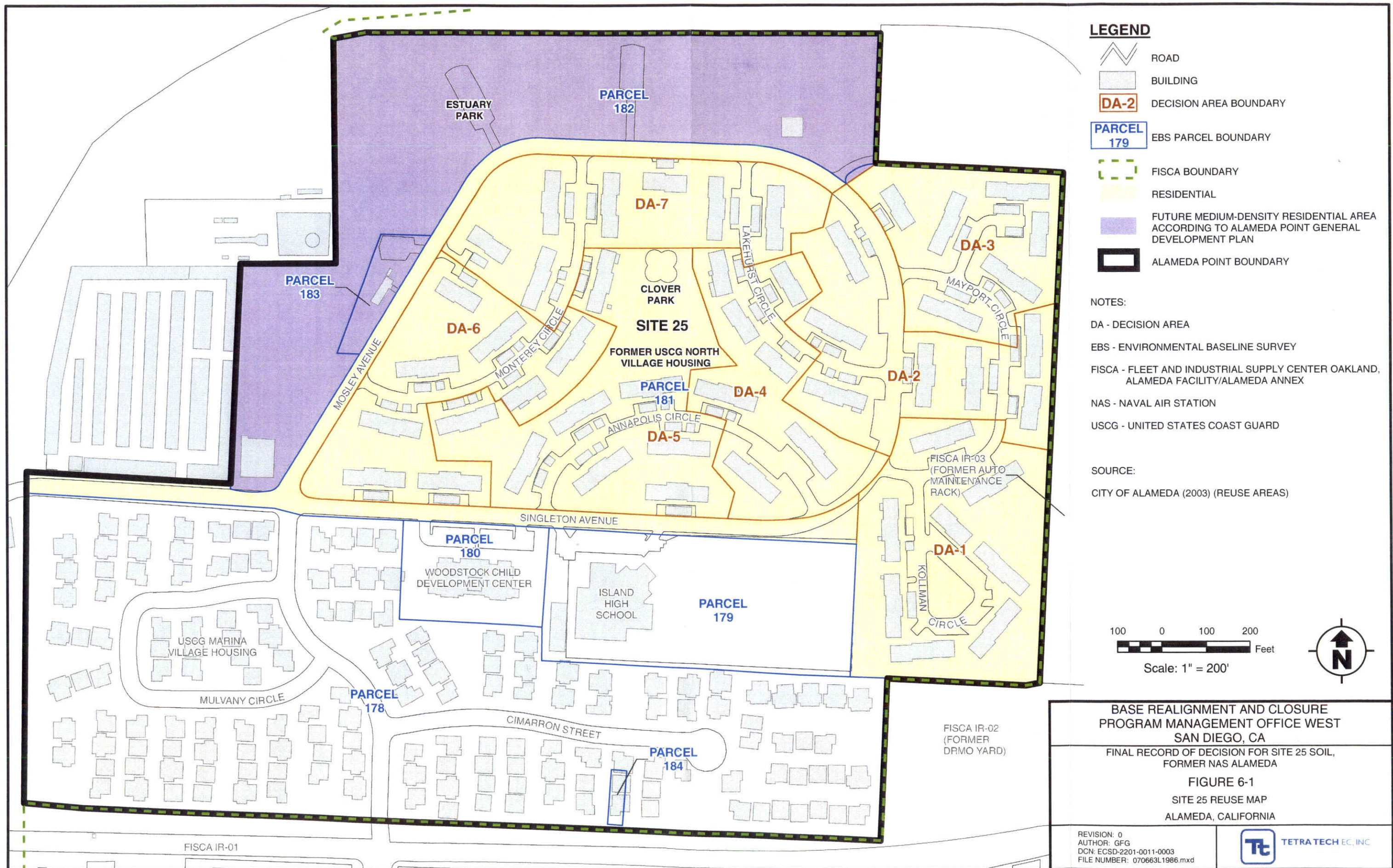
- Site 30 – Civic/Institutional
- Site 31 – Residential
- IR-01 – Residential
- IR-02 – Residential/Industrial
- IR-03 – Commercial/Industrial

6.3 GROUNDWATER USES

Drinking water is currently supplied to Alameda Point by the East Bay Municipal Utility District. No changes in current groundwater usage are anticipated, as the restrictions against groundwater usage are defined currently within the OU-5/IR-02 Groundwater ROD (DON, 2007). The groundwater remedy presented in the OU-5/IR-02 Groundwater ROD addresses benzene and naphthalene contamination beneath Site 25 and surrounding areas.

6.4 SURFACE WATER USES

Site 25 does not have naturally occurring surface streams or true ponds. Previous studies have concluded that site stormwater runoff is not affecting aquatic receptors within the Oakland Inner Harbor (ERRG, 2004)



7.0 SUMMARY OF SITE RISKS

As discussed in Section 2.0, several risk evaluations have been conducted that have been instrumental in determining appropriate removal actions as well as evaluating site risks at Site 25. These risk assessments include the following:

- RI baseline risk assessment (Neptune et al., 2002)
- Revised RI residential risk calculations in response to EPA comments on the RI as presented in the Draft Soil FS for OU-5 (CDM, 2003). The calculations were presented in the Final Soil FS for OU-5 (CDM, 2005)
- Groundwater RI/FS baseline risk assessment (ERRG, 2004)
- Post-TCRA risk assessment calculations for DAs 4, 5, and 7 and Parcels 182 and 183, described in the Site 25 FS (CDM, 2005)
- Revised risk assessment calculations for non-TCRA areas DAs 1, 2, 3, and 6, described in the Site 25 FS (CDM, 2005)

The RI baseline risk assessment (Neptune et al., 2002) was based on RI samples collected using a rigorous statistical approach that focused on sampling PAHs in the vicinity of the housing units (Neptune and Company, Inc., 2001). The most recent and relevant risk evaluations were included in the FS (CDM, 2005), which assessed post-TCRA risks at Site 25. In this HHRA, the exposure concentrations are based on over 6,000 data points from 630 soil samples collected during previous investigations, including the soil samples collected in 2001 adjacent to each housing unit. The post-TCRA HHRA was conducted to evaluate potential risks to human health posed by chemical substances remaining in soil at the site. This HHRA was based on soil data; however, soil gas and groundwater risks were incorporated into the exposure assessments. The objective of the HHRA was to estimate the risks to human and ecological receptors from exposure to chemicals in groundwater and soil gas at the site. The risk assessment provides the basis for taking action and identifying the COPCs and exposure pathways, including contact with site soils through ingestion, inhalation, and dermal absorption.

The risk assessment was performed in accordance with the EPA's *Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual (Part A), Interim Final* (EPA, 1989), and the State of California's Department of Toxic Substances Control *Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities* (DTSC, 1992).

Additionally, a screening level Ecological Risk Assessment (ERA) was conducted for soil. The ERA did not find a significant risk to terrestrial ecological receptors. A significant factor was the

marginal quality of the general area with respect to habitat for and/or presence of terrestrial ecological receptors.

A CSM was used to support these risk assessments by identifying the potential receptors and exposure pathways associated with contaminated soil, soil gas, and groundwater (CDM, 2005). The CSM is described in Section 5.4 and is illustrated in Figure 5-1. Sections 7.1 and 7.2 summarize the approach used and results for the HHRA.

The HHRA provides the risk-based justification on which the selected remedy, Alternative 2 - ICs, was selected for Site 25. As is shown by the HHRA, soil from surface to 4 feet bgs is within the NCP Risk Management Range for carcinogenic risks (10^{-4} to 10^{-6}). Additionally, the non-carcinogenic risks are below the HI threshold of 1.0.

7.1 BASELINE HHRA APPROACH

The HHRA was conducted for Site 25 and identified COPCs in soil (CDM, 2005). Carcinogenic and non-carcinogenic risks were calculated for exposure to site soils; however, the cumulative exposures from soil, groundwater, and soil gas were incorporated into the risk evaluation. Under current and proposed land uses, risks to residents were evaluated and determined to be within the NCP Risk Management Range for soils within 4 feet of ground surface.

7.1.1 Identification of Chemicals of Potential Concern

The methodology used to identify COPCs and evaluate risk is consistent with the *EPA Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (Part A), Interim Final* (EPA, 1989) and *Part B* (EPA, 1991) and the *Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazard Waste Sites and Permitted Facilities* (DTSC, 1992).

7.1.2 Exposure Assessment

An exposure assessment identifies the populations at potential risk and the mechanisms by which members of those populations could be exposed to the COPCs in each medium. It is also a process by which the chemical concentrations at the point of exposure and the chemical doses are calculated. Exposure scenarios in the RI HHRA included all applicable exposure pathways for the site. Exposure scenarios included:

- Direct contact with soil (ingestion, dust inhalation, and dermal absorption for all receptors; assumed all of the site is unpaved);
- Inhalation of vapors from soil gas in indoor air for current and future site residents; and

- Inhalation of vapors from shallow groundwater in outdoor air for construction workers.

Residential use of groundwater (e.g. ingestion of groundwater) was not considered a completed exposure pathway. The FS HHRA calculations also included homegrown produce and a total risk assuming residential use of groundwater based on the risks included in the Groundwater RI/FS baseline risk assessment (ERRG, 2004).

7.1.2.1 Residential Scenario

For the purposes of the HHRA, current and potential future residents (children and adults) and construction workers were assumed to be exposed to COPCs in soils. The cumulative exposures from soil, groundwater, and soil gas were incorporated into the risk evaluation.

7.1.3 Toxicity Assessment

The toxicity assessment presents the numerical toxicity values used to characterize the risk. A cancer slope factor is used for carcinogenic health effects and a reference dose (RfD) is used for noncancer health effects. There was a dual-calculation of risk based on EPA and Cal/EPA toxicity values. Toxicity values, when available, are published by the EPA in the on-line Integrated Risk Information System (IRIS) (EPA, 2004b) and the Health Effects Assessment Summary Tables (HEAST).

Cal/EPA publishes toxicity factors for some carcinogens (Office of Environmental Health Hazard Assessment [OEHHA], 2004). OEHHA toxicity values were only used in Cal/EPA cancer risk calculations. The FS HHRA included naphthalene as a carcinogen in the revised Cal/EPA risk calculations.

The toxicity factors for the carcinogenic PAHs (excluding naphthalene) are based on the toxicity of B(a)P. B(a)P has cancer slope factors published by EPA and OEHHA. EPA and Cal/EPA also publish lists of toxicity equivalency factors (TEFs) which allow the conversion of the B(a)P slope factor to slope factors for the other PAHs. These slope factors are then applied to the EPC for each PAH. The concentrations of the carcinogenic PAHs are then added together to make a B(a)P-equivalent concentration (Neptune et al., 2002).

7.1.4 Risk Characterization

The final step in the HHRA is the risk characterization, during which the estimated rate at which a person takes in a COPC is compared with information about the toxicity of that COPC to estimate the potential risks to human health posed by exposure to the COPC. In the risk characterization, cancer risks are evaluated separately from adverse non-cancer health effects.

The methods used for assessing cancer risks and adverse non-cancer health effects are discussed below.

7.1.4.1 Carcinogenic Risk

Carcinogenic risk is estimated as the incremental probability of an individual developing cancer over a lifetime as a result of a chemical exposure. Carcinogenic risks are evaluated by multiplying the estimated average exposure rate by the chemical's CSF. The CSF converts estimated daily intakes averaged over a lifetime to incremental risk of an individual developing cancer. Because cancer risks are averaged over a person's lifetime, longer-term exposure to a carcinogen will result in higher risks than shorter-term exposure to the same carcinogen, if all other exposure assumptions are constant.

It is assumed that cancer risks from various exposure routes are additive. That is, theoretical carcinogenic risks for all potentially carcinogenic COPCs and individual receptors are summed across all relevant exposure pathways to obtain a total theoretical carcinogenic risk for an area of interest. Thus, the result of the assessment is a high-end estimate of the total carcinogenic risk.

Guidelines for managing cancer risks are promulgated in the NCP. According to these regulations, when the cancer risk is above one in ten thousand (10^{-4}), action is generally warranted, and when cancer risks are within the NCP Risk Management Range between one in one million (10^{-6}) to one in ten thousand (10^{-4}), site-specific factors are considered when making decisions about whether action is required.

7.1.4.2 Non-carcinogenic Risk

The daily intake rate is divided by the RfD to obtain the hazard quotient (HQ). HQs for individual chemicals and exposure pathways are added together to estimate a Hazard Index (HI). HI values of less than one are considered unlikely results in adverse health effects.

HQ values below one are considered acceptable levels of exposure that are not likely to result in adverse health effects over a lifetime. HQ values above one are considered further for possible health effects.

7.1.4.3 Human Health Risk Assessment Results

The FS HHRA evaluated the soil risks based on soil characteristics both prior to and after the completion of the TCRAs. Post-TCRA results of the HHRA indicated that Site 25 soils within 4 feet of ground surface are within the NCP Risk Management Range. Site 25 soils within 8 feet of ground surface are generally within the NCP Risk Management Range, with the exception of DA-7 and Parcels 182/183. At depths greater than 4 feet bgs at these locations, estimated HIs were slightly above 1 and incremental lifetime cancer risk (ILCRs) for soil were greater than the

NCP Risk Management Range of 10^{-4} to 10^{-6} . Both cancer and non-cancer risks to theoretical residents are presented in Table 7-1.

7.1.4.4 Chemicals of Potential Concern

Cancer and non-cancer risk drivers, also called COPCs, were identified at Site 25. A risk driver is defined as a COPC that has one or more of the following characteristics:

- An individual cancer risk estimate exceeding 10^{-6} ;
- A cancer risk estimate less than 10^{-6} but that, when combined with other COPCs with cancer risk estimates less than 10^{-6} , causes the sum of the cancer risk estimates to exceed 10^{-6} ;
- An HI greater than 1.0; and/or
- An HI that is less than 1.0 but that, when combined with COPCs with the same mechanisms of toxic action and HIs also less than 1.0, causes the sum of the HIs to be greater than 1.0.

As discussed in Section 5.0, PAHs were determined to be the only carcinogenic risk drivers for the residential scenario and are the COCs addressed by this ROD.

Carcinogenic and non-carcinogenic risks for exposure to PAHs in soil to 4 feet bgs were within the NCP Risk Management Range (10^{-4} to 10^{-6}) and are less than the non-carcinogenic HI of 1.0.

7.2 SCREENING LEVEL ERA APPROACH

ERAs have been conducted quantitatively and qualitatively for Alameda Point. A screening level ERA was conducted for Alameda Point. The screening-level ERA uses existing data and is intended to be a conservative estimate. The primary objective is to determine whether complete exposure pathways exist for soil and groundwater and to estimate risk from chemicals through these complete exposure pathways. The results were published as part of the Data Summary Report for Alameda Point OU-2, which included the parcels currently identified as OU-5 (TtEMI, 1999a). The Alameda Point ERA included identification of potentially complete exposure pathways, COPCs for soil based on a comparison to screening benchmarks, and refinement of the chemicals list through evaluation of risk to two upper-trophic level receptors likely to occur in the limited habitat in Alameda Point's OU-5.

Results of the previous ERAs conducted for Alameda Point concluded that no significant risk exists to terrestrial ecological receptors, and no ecological risk to the Bay exists from lateral groundwater movement or storm sewer system discharge. A large factor in the ERAs was the marginal quality of the general area with respect to terrestrial ecological receptors. Based on current reuse plans, this can be assumed to be true for future scenarios as well. Based on the

results of the preliminary evaluation and the marginal nature of the ecological habitat at Alameda Point OU-5, no further ecological investigations of the terrestrial habitat have been conducted. No risk to small mammals was identified.

7.3 NCP POINT OF DEPARTURE ANALYSIS

The NCP provides a range of cancer risks from 10^{-6} to 10^{-4} for the DON as lead agency along with its regulatory partners to use when making decisions on remedies for contaminated sites. Cancer risks less than 10^{-6} (one in a million) are not considered to warrant a cleanup response. Cancer risks greater than 10^{-4} (one in a ten thousand) excess cancer risk warrant action to reduce exposure. NCP §300.430(e)(2)(A) provides factors that must be considered when making decisions regarding remedial action objectives (RAOs) and remedial alternatives in the context of the NCP Risk Management Range as follows:

Preliminary remediation goals for carcinogens are set at a 10^{-6} excess cancer risk as a point of departure, but may be revised to a different risk level within the acceptable risk range based on the consideration of appropriate factors including but not limited to exposure factors, uncertainty, and technical limitations (NCP preamble at 55 Fed. Reg. 8717, March 8, 1990).

When there is a high level of confidence that the cancer risks are representative of the site conditions, then decisions at the 10^{-4} risk level may be acceptable. The purpose of this Point of Departure Analysis is to show that there is a high level of confidence that the Site 25 risk assessment results are representative or more conservative than potential reasonable maximum exposure with regard to site conditions and can be used to support risk management decisions at 10^{-4} .

Two human health risk assessments were conducted for Site 25. The first was a baseline HHRA in the Site 25 RI (RI HHRA) (Neptune et al., 2002). The second was conducted as part of the FS (FS HHRA). Risks were revised for the areas that were subject to removal actions and for all areas to include the homegrown produce pathway (CDM, 2005).

The RI HHRA determined that seven PAHs are the only chemicals of potential concern for consideration in the FS. The cancer risks associated with other chemicals did not present an unacceptable threat to human health. All noncancer hazard values presented in the HHRA were below the risk management level of 1.0; therefore, the risk management decisions are based on cancer risk for the seven PAHs considered potential carcinogens in soil at Site 25.

TABLE 7-1
SUMMARY OF ESTIMATED CANCER RISKS
AND NON-CANCER HAZARD INDICES FOR SOIL

Parcel	Area	Soil Depth Interval (ft bgs)	Cancer Risk (PAH)	Hardscape Cancer Risk ¹ (PAH)	Non-Cancer Hazard Index (PAH)
Soil Removal Areas					
Parcel 181	DA 4	0-2	2 x 10 ⁻⁷	5 x 10 ⁻⁵	0.0003
		0-4	3 x 10 ⁻⁵	6 x 10 ⁻⁵	0.04
		0-8	4 x 10 ⁻⁵	8 x 10 ⁻⁵	0.05
	DA 5	0-2	2 x 10 ⁻⁷	6 x 10 ⁻⁵	0.0003
		0-4	6 x 10 ⁻⁵	7 x 10 ⁻⁵	0.08
		0-8	6 x 10 ⁻⁵	4 x 10 ⁻⁵	0.07
	DA 7	0-2	2 x 10 ⁻⁷	1 x 10 ⁻⁴	0.0003
		0-4	4 x 10 ⁻⁵	1 x 10 ⁻⁴	0.08
		0-8	3 x 10 ⁻⁴	1 x 10 ⁻³	2
Parcels 182 & 183		0-2	2 x 10 ⁻⁷		0.0003
		0-4	1 x 10 ⁻⁴		0.3
		0-8	8 x 10 ⁻⁴		1
Non-Removal Areas					
Parcel 181	DA 1	0-2	1 x 10 ⁻⁵	--	0.02
		0-4	9 x 10 ⁻⁶	--	0.02
		0-8	9 x 10 ⁻⁶	--	0.02
	DA 2	0-2	4 x 10 ⁻⁵	--	0.05
		0-4	6 x 10 ⁻⁵	--	0.07
		0-8	6 x 10 ⁻⁵	--	0.08
	DA 3	0-2	2 x 10 ⁻⁵	--	0.02
		0-4	1 x 10 ⁻⁵	--	0.01
		0-8	7 x 10 ⁻⁵	--	0.04
	DA 6	0-2	3 x 10 ⁻⁵	--	0.04
		0-4	4 x 10 ⁻⁵	--	0.06
		0-8	9 x 10 ⁻⁵	--	0.01

Note:

Risk calculations for residential use were performed using EPA methodology (EPA, 2004a).

¹ Hardscape cancer risk shows the pre-removal action risk in the removal action areas that can reasonably be expected to represent the current site conditions beneath the existing hardscape and buildings in DAs 4, 5, and 7.

-- Not applicable for non-removal areas.

Abbreviations and Acronyms:

DA – Decision Area

EPA – U.S. Environmental Protection Agency

ft bgs – feet below ground surface

PAH – polynuclear aromatic hydrocarbon

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7.3.1 Exposure Factors

The evaluation of the exposure factors shows that the risk assessments for Site 25 adequately addressed the effects of exposure to multiple chemicals in addition to PAHs; exposure via multiple exposure pathways; any special considerations for the potentially exposed population; ecological receptors; and the potential that PAHs in soil could impact other media as a result of the remedial alternatives.

7.3.1.1 Cumulative Effect of Multiple Chemicals

The RI HHRA, following EPA guidance, evaluated all chemicals and their cumulative health effects. The cumulative health effects of the 16 PAHs and metals in soil and VOCs in soil gas were calculated. No widespread evidence of soil impacts from organic chemicals other than PAHs was identified in previous investigations, and metals were found at concentrations consistent with background. Conservatively, noncancer health effects are added together to estimate a protective noncancer hazard even though EPA guidance requires that cumulative hazard only be considered for chemicals that have the same health effect (i.e., affect the same target organ).

7.3.1.2 Potential for Exposure from other Pathways

All reasonably possible complete exposure pathways have been addressed. The exposure pathways included in the RI HHRA were ingestion of soil, dermal contact with soil and inhalation of dust and vapors in air by child and adult residents. The EPA cancer risks shown on Table 7-1, and presented in the FS, also include ingestion of homegrown produce.

The groundwater in the general area, as well as directly beneath portions of Site 25, is impacted by VOCs, notably benzene and naphthalene. The migration of vapors from the groundwater into indoor air was included in the RI HHRA. It was reported that there was no evidence of accumulation of vapors from groundwater in indoor air, because the concentrations of chemicals in indoor air, outdoor air, and the crawl space for each home were not different. It is unlikely that future residents would have access to shallow groundwater for drinking or any other purpose. Residents of Alameda Point are currently provided with potable water from the East Bay Municipal Utility District.

The groundwater, part of the area-wide operable unit OU-5/IR-02 groundwater plume, will be remediated over approximately the next eight years as described in the OU-5/IR-02 Groundwater ROD (DON, 2007).

7.3.1.3 Population Sensitivities

No evidence suggests that the residents of Site 25 will be more sensitive to PAHs than the receptors that the EPA risk assessment process is designed to protect. The EPA risk assessment process is designed to be protective of sensitive populations including children and the elderly. While some other chemicals may have greater health effects on subsets of the general population, there is no evidence of this for PAHs (Agency for Toxic Substance and Disease Registry [ATSDR] 1995, EPA, 2006a).

Residents of a highly industrialized area with exposure to other sources of contamination might be more sensitized to chemical exposure. However, Alameda Point is not highly industrialized and heavy industry is not included in the future development plans. There are no unique exposures to other sources of chemicals at Site 25 which need to be considered with regards to population sensitivity at Alameda Point.

7.3.1.4 Potential Impacts on Environmental Receptors

An ERA was conducted early in the site investigation process (Neptune et al., 2001). This assessment concluded that chemical concentrations did not pose a concern to ecological receptors. Also, the future use of the property greatly limits the habitat available for wildlife developed.

7.3.1.5 Cross Media Impacts of Alternatives

There is limited potential in any of the remedial alternatives, including the no further action alternative, for the PAHs in soil to impact other media. The PAHs of concern are the seven PAHs considered as potential human carcinogens. These PAHs have the highest molecular weights and are considered the heavy PAHs (ATSDR, 1995). Heavy PAHs are generally found in soil in a solid form attached to soil particles and have very low solubility in groundwater. These PAHs are not susceptible to volatilization or to migration into the groundwater (ATSDR, 1995). It is unlikely that PAHs in soil would migrate into groundwater because of their low solubility in water and their tendency to adsorb onto soil particles.

Therefore, the PAHs in soil can be considered immobile except for wind that picks up particles of soil as airborne dust. The RI HHRA shows that the cancer risks associated with inhalation of dust in the air are well below the 10^{-6} cancer risk level. The cancer risk associated with inhalation of dust is approximately 1,000 times lower than that estimated from ingestion of soil, dermal contact with soil or ingestion of homegrown produce. Therefore, cross media impacts to air are not a concern.

7.3.2 Uncertainty

Areas of uncertainty in any risk assessment process include the reliability of alternatives, the weight of evidence for exposure and health effects, and the reliability of exposure data. This section explains that the uncertainty in these areas is adequately addressed in the risks calculated in the RI HHRA and for the FS.

7.3.2.1 Reliability of Alternatives

Five alternatives were developed and evaluated in the FS (two alternatives were screened out of further consideration and three brought forward to the Proposed Plan) for additional consideration. One alternative, no action, is required to be included and is used as a means to establish a baseline from which to compare the other two alternatives. The second alternative, and the one ultimately selected for implementation in this ROD, involves the implementation of ICs limiting soil excavation below 4 feet and, for major site work consisting of demolition or removal of hardscape or buildings, from the surface downward under buildings and hardscape without the preparation and approval of a soil management plan. Alternative 3 involved an additional removal of soil over and above what had already been done at Site 25 followed by the implementation of ICs as found in Alternative 2.

On their face, Institutional Controls can be viewed as less reliable than physical response actions called "Engineering Controls" (ECs). However, ICs can achieve satisfactory levels of control and protection if they are clear, understandable, and fully capable of being implemented and enforced. In the case of the ICs covering Site 25, they will meet all the standards discussed above. The ICs will prevent exposure to soils below 4 feet which contain PAHs exceeding the Risk Management Range. Although soil beneath and hardscape was not sampled, samples were collected adjacent to every housing unit during the 2001 RI (Neptune et al., 2002). In the post-TCRA HHRA, the exposure concentrations are based on over 6,000 data points from 630 soil samples. The participation of the regulators in the monitoring and enforcement of the ICs adds a strong element of reliability. Finally, previous experience with similar ICs on an adjacent property (formerly owned by the DON but since conveyed) shows that ICs are working effectively and accomplishing the intended purpose of limiting exposure to contamination while continuing to protect human health.

7.3.2.2 Weight of Evidence for Exposure and Health Effects

There is a high level of confidence that the exposure and health effects information used in the RI and FS HHRA is protective of human health for multiple reasons.

- Exposure is conservatively based on a reasonable maximum exposure.

- The exposure assumptions apply to children and adults assumed to be in contact with the PAHs in soil for 30 years (6 years as a child and 24 years as an adult) for 350 days a year.
- The exposure pathways include ingestion of soil, absorption of PAHs through dermal contact with soil, and inhalation of dust in the air. The cancer risks also conservatively assume that each resident has a garden and all their vegetables come from this garden for two and one half months of the year.
- The HHRA assumed all soil is exposed. Currently there is no residential use of Site 25 (the existing residences are vacant) and future use will likely entail little exposed soil, based on new adjacent and nearby residential development.

A substantial mass of PAHs was removed during the TCRA when the top 2 feet over a large portion of Site 25 was replaced with clean fill. The ICs in the preferred alternative are a precautionary measure for the majority of the site and not needed to control exposure. The cancer risks from 0 to 4 feet below the surface throughout Site 25 are less than 10^{-4} . The cancer risks from 0 to 8 feet below the surface are less than 10^{-4} in all areas except DA 7 and Parcels 182/183 (Estuary Park). In DA 7, one sample causes the cancer risk to exceed 1×10^{-4} indicating that concern is not widespread.

There is also a high level of confidence that the toxicity factors used to calculate the cancer risk for PAHs are protective and any potential health effects were not underestimated. PAHs are considered probable human carcinogens in Group B2 (EPA, 2006a). This means that there is adequate evidence that exposure to high levels of PAHs increases the production of tumors in laboratory animals but the evidence in people that PAHs increase the incidence of cancer is lacking. There is evidence that PAHs in cigarette smoke may be linked to lung cancer, but the relationship between PAHs and lung cancer has not been demonstrated (EPA, 2006a).

The animal studies used to develop toxicity factors are designed to maximize the ability of the test to identify any tendency for the chemical to produce tumors or other evidence of adverse health effects (EPA, 2004a). The animals are fed the maximally tolerated dose that will allow survival of the animal during the test period. All tumors, benign or malignant, are considered positive evidence of cancer in the test animals. Also, test animals with a tendency to develop tumors are generally used (EPA, 2004a).

7.3.2.3 Reliability of Exposure Data

The exposure data are reliable because standard exposure factors were used to estimate reasonable maximum exposure and there is a large amount of site characterization data. Exposure is estimated by combining exposure assumptions with the exposure concentrations. The exposure assumptions used are standard EPA and Cal/EPA values designed to represent reasonable maximum exposure. The exposure concentration is calculated from the results of soil

samples analyzed for PAHs. EPA guidance specifies that the exposure concentrations should be an average concentration to represent exposure over 30 years. However, because any set of soil samples only represent a portion of the soil, EPA guidance specifies that the exposure concentration be represented by the 95th upper bound confidence limit of the average concentration (95th UCL).

At Site 25, there is a high level of confidence that the exposure concentrations are reliable estimates of the true concentrations because of the large data set and the consistency of the data with the CSM. The exposure concentrations are based on over 6,000 data points from 630 samples collected as part of the site investigations. The horizontal distribution of the PAHs appears to be random and the vertical distribution tends to increase with depths, particularly below 8 feet. This pattern is consistent with the use of sediment from the Oakland Inner Harbor as fill in this area. Numerous filling operations both prior to purchase by the DON and as development of former NAS Alameda resulted in fill being placed on top of the Marsh Crust which entrapped PAH-containing petroleum wastes.

7.3.3 Technical

There are technical considerations in assessing the results of any risk assessment and the remedial alternatives proposed in the FS including the detection/quantification limits, technical limitations to remediation and the ability to monitor and control movement of PAHs. As discussed below, these factors do not add any uncertainty to the risk assessment process or remedial alternatives for Site 25.

7.3.3.1 Detection/Quantification Limits

When detection limits are inappropriately elevated, chemicals present in soil could be reported as not detected, but actually be present at concentrations which are of concern. Elevated detection limits are not a concern for risk assessment calculations at Site 25. The detection or quantification limits for the PAHs in the samples used in the risk assessment were sufficiently low that there is a high level of confidence that the distribution of the PAHs is understood and the risks are representative. Also, PAHs were frequently detected so the proportion of samples reported as not detected is low. Historic data for PAHs with high detection limits were not included.

7.3.3.2 Technical Limitations to Remediation

As was discussed in Section 2.0, the DON conducted two soil removal actions to remove soil from areas with the highest concentrations of PAHs and the greatest likelihood for human exposure. The removal areas are shown in Figure 2-1. In 2001, the DON removed PAH-impacted soil from the Clover Park Play Area to a depth of 4 feet bgs. In 2001 and 2002, the

DON removed PAH-impacted soil from non-hardscaped areas to a depth of 2 feet bgs from Estuary Park, Parcel 181 (DAs 4, 5, and 7) and Parcels 182 and 183.

Table 7-1 summarizes the current HHRA-calculated risks for soils at Site 25 in their current placement. The post-TCRA evaluations show that there is no unacceptable risk to children or adults at Site 25 and soil to a depth of 4 feet at the site is protective of human health and the environment. Soils to a depth of 8 feet bgs exhibit risk levels within the management range, with the exception of DA-7 and Parcels 182 and 183.

The preferred alternative, with the use of ICs, does not include further excavation. Additional excavation to remove impacted soils at the 0 to 2.0 foot bgs depth in DAs 1, 2, 3, and 6 (Alternative 3) was not selected because the risks were already within the risk management range and because of its high cost.

7.3.3.3 Ability to Monitor and Control Movement of PAHs

PAHs are not particularly volatile, generally have poor water solubility, and have a distinct tendency to bind to organic substances. According to the EPA Fact Sheet on PAHs (EPA, 2006b), if released to soil, it is expected that PAHs will adsorb very strongly and will not leach to the groundwater. However, if released to water, PAHs will also be expected to adsorb very strongly to aquifer sediments and particulate matter. Based on this, it is not expected that significant PAHs will enter groundwater from soil.

Additionally, groundwater at this site has been monitored for several years for a variety of constituents and only benzene and naphthalene are identified as chemicals of concern for groundwater (DON, 2007). As described in Section 7.3.1.5, the PAHs of concern for Site 25 soil are the higher molecular weight compounds, which have a tendency to adsorb strongly to soil particles and that also characteristically have low volatility and low mobility. Since the PAHs in soil have not been shown to migrate to groundwater during many years of monitoring, additional monitoring to evaluate movement of PAHs is not required. Therefore, there is a high level of confidence in the low mobility of the PAHs in the Site 25 soil.

In summary, the foregoing analysis of the factors such as detection/quantification limits, uncertainty factors, and other pertinent site information shows that the RAOs have been properly set within the NCP Risk Management Range of 10^{-4} to 10^{-6} .

8.0 REMEDIAL ACTION OBJECTIVES

This section presents the RAOs proposed for PAH-impacted soil remaining at Site 25. EPA guidance (EPA, 1988) defines RAOs as media-specific (soil, groundwater, or air) goals for protecting human health and the environment. As stated in the NCP at 40 CFR 300.430(e)(2)(i), the purpose of these objectives is to focus the FS and define the scope of potential cleanup activities at a site, thereby guiding the development and evaluation of potential remedial alternatives.

The RAO developed for soil at Site 25 is to prevent human exposure to soil containing PAHs at concentrations that represent a lifetime cancer risk exceeding the Risk Management Range or exceeding the non-cancer HI of 1.0. Protectiveness may be achieved by reducing exposure in addition to reducing chemical concentration levels. As detailed in Section 2.3, extensive removal of contaminated soil at the surface to a 2-foot interval throughout much of the site was previously conducted. Human health risks are within the NCP Risk Management Range from surface to a depth of 4 feet. Additional protectiveness will be achieved by reducing exposure through IC implementation. ICs are detailed in Section 12.1.

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9.0 DESCRIPTION OF ALTERNATIVES

The development of soil remedial alternatives followed the requirements identified in CERCLA, as amended by SARA of 1986, 42 USC Section 9601, et seq. and the NCP. Five alternatives were developed and presented in the Site 25 FS (CDM, 2005); however, only three alternatives were selected for detailed analysis. The evaluation of the technology screening process that led to the development of all five alternatives, and subsequent screening out of two of the alternatives is documented in the FS (CDM, 2005). Alternatives 1 through 3 include:

- Alternative 1 – No action
- Alternative 2 – ICs
- Alternative 3 – ICs and excavation from 0 to 2 feet depth over the unimproved areas of DAs 1, 2, 3, and 6 in Parcel 181 with off-site disposal and backfill

The common element among Alternatives 2 and 3 is ICs. ICs include land use restrictions that would be established to limit human exposure to contaminated soil. Specifics of ICs are discussed further in Section 12.1.

As discussed in the FS, Alternatives 4 and 5, which included the removal of soil to 4 and 8 feet below surface respectively, would result in a minimal increase in protectiveness and were considered difficult to implement. Additionally, the increased cost of Alternatives 4 and 5 over Alternatives 2 and 3 appeared disproportionate to the minor increase in protectiveness, when it was considered that ICs would still be required for protection. These two alternatives were estimated to incur significantly greater costs (\$18.8 million and \$31.4 million, respectively) than Alternatives 1, 2 and 3 (\$0, \$254,000, and \$4.3 million, respectively). Additionally, removal of soil to 4 and 8 feet below surface was determined to be impracticable due to constructability issues related to shallow groundwater, replacement of multiple utility corridors, excavation and disposition of previously placed clean fill from former removal actions, structural undermining of existing buildings, and incurred disruption of the site for an extended duration. These factors resulted in the screening out of Alternatives 4 and 5 during the FS evaluation.

A discussion of Alternatives 1, 2, and 3 as they relate to the NCP evaluation criteria follows.

9.1 ALTERNATIVE 1 – NO ACTION

In this alternative, no actions are performed. This alternative provides a baseline for comparing all other alternatives. There is no cost associated with this alternative.

9.2 ALTERNATIVE 2 – ICS

Alternative 2 includes ICs to be implemented for Site 25 to limit human contact with PAH-containing soil that may be harmful to human health.

ICs will require the future landowner to obtain written approval from the regulatory agencies and the DON and comply with a soil management plan for excavation of soil from depths greater than 4 feet below surface and for major site work consisting of removal of buildings and hardscape. EPA and DTSC have indicated that for building removal and major site work they will require the future landowner to enter into an enforceable agreement requiring the soil management plan that will include both agencies, unless either agency at its discretion decides that its participation is not necessary. Alternative 2 uses ICs to manage long-term risks by minimizing exposure to impacted soil that contains unacceptable levels of chemicals that occur below a depth of 4 feet in the undeveloped areas and potentially beneath buildings and hardscape. Specific ICs are further discussed in Section 12.1.

9.3 ALTERNATIVE 3 – ICS AND EXCAVATION FROM 0 TO 2 FEET DEPTH IN UNIMPROVED AREAS OF DA 1, 2, 3, AND 6 IN PARCEL 181 WITH OFF-SITE DISPOSAL AND BACKFILL

This alternative includes the ICs outlined in Alternative 2 and excavation of approximately 14,800 cubic yards of PAH-impacted soil from unimproved areas within DAs 1, 2, 3, and 6. Alternative 3 has no additional excavation in the previously excavated Parcels 182, 183 or DAs 4, 5, and 7 in Parcel 181. All excavated soil would be transported off site to an approved licensed facility.

Soil would be excavated to a depth of 2 feet across these DAs. Plastic fencing material would be placed at the bottom of the excavation to denote the PAH excavation subgrade as well as the extent of clean fill placement. The goal is to prevent human access to soils remaining in place with residual B(a)P equivalent EPC concentrations greater than the RG.

ICs would be required to maintain protectiveness below 4 feet. They would be implemented as described in Section 12.1.

10.0 COMPARATIVE ANALYSIS OF ALTERNATIVES

This section summarizes the comparative analysis conducted to evaluate the relative performance of each remedial alternative in relation to the nine criteria outlined in CERCLA Section 121 (b), as amended. The purpose of the comparative analysis is to identify the relative advantages and disadvantages of each alternative. Alternatives were rated on a scale ranging from low to high. Comparative ratings were developed within the FS (CDM, 2005) to assist with the screening assessment. The evaluation criteria are based on requirements promulgated in the NCP. As stated in the NCP (40 CFR Section 300.430[f]), the evaluation criteria are arranged in a hierarchical manner then used to select a remedy for the site based on the following categories:

- Threshold criteria
 - Overall protection of human health and the environment
 - Compliance with applicable or relevant and appropriate requirements (ARARs)
- Primary balancing criteria
 - Long-term effectiveness and permanence
 - Reduction of toxicity, mobility, or volume through treatment
 - Short-term effectiveness
 - Implementability
 - Cost-effectiveness
- Modifying criteria
 - State acceptance
 - Community acceptance

Table 10-1 provides a summary of the primary balancing criteria for each of the three alternatives. Alternatives 4 and 5 did not undergo a detailed evaluation in the FS because these two alternatives have significantly greater costs (\$18.8 million and \$31.4 million, respectively), still require ICs for protection, and achieved only a minor increase in protectiveness relative to the increase in costs.

10.1 OVERALL PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT

Each of the alternatives, except Alternative 1, is protective of human health and the environment by reducing the risks posed by soil through ICs. The no action alternative provides a basis of comparison and is required by the NCP.

For Alternative 2, soil in the upper 4 feet in the undeveloped open space at Site 25 is considered protective of human health without ICs based on the risk assessment. In addition, a previous TCRA removed the upper 2 feet of soil in areas with the highest PAH concentrations. Risks throughout the site are lower than or within the NCP Risk Management Range. Risks within the NCP Risk Management Range are protective of human health for the residential exposures at Site 25 based on the extensive site characterization and high level of confidence that risks are not underestimated. For soil deeper than 4 feet, ICs will be implemented to limit human contact with this soil. Specific ICs are discussed in Section 12.1.

For Alternative 3, excavation to 2 feet bgs is for the remaining non-hardscaped areas, so risks associated with soil below 2 feet and under buildings and hardscape areas remain unchanged. The same ICs as specified in Alternative 2 will be implemented in Alternative 3.

Alternatives 2 and 3 meet the threshold criteria for overall protection of human health and the environment.

10.2 COMPLIANCE WITH ARARS

Compliance with identified ARARs is not required for Alternative 1 because ARARs apply to “any removal or remedial action conducted entirely on site.” The no action alternative is not considered a removal or remedial action (CERCLA Section 121[e], 42 USC Section 9621[e]). Alternatives 2 and 3 meet the threshold criteria of compliance with ARARs (Section 13.2).

10.3 LONG-TERM EFFECTIVENESS AND PERMANENCE

Alternative 1, no action, received a rating of none for long-term effectiveness and permanence because there are no ICs and no monitoring. Alternatives 2 and 3 are moderately effective and permanent by limiting access to impacted soil at depths greater than 4 feet bgs in non-hardscaped areas.

10.4 REDUCTION OF TOXICITY, MOBILITY, OR VOLUME THROUGH TREATMENT

None of the alternatives include treatment as a component of the remedy. However, the clean backfill imported during the TCRA acts as a barrier for the most probable exposure pathways of incidental ingestion, dermal contact, and inhalation of windblown particulates. During the TCRAs, the PAH-impacted soil was relocated to a Class II landfill where mobility and exposure can be controlled. This served to reduce the mobility and the volume of on-site COCs, but did not include treatment to reduce toxicity.

TABLE 10-1

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES BY BALANCING CRITERIA

Alternative	Long-Term Effectiveness and Permanence	Reduction in Toxicity, Mobility, or Volume Through Treatment	Short-term Effectiveness	Implementability	Cost (in millions of dollars) ¹
Alternatives 1, 2, and 3	Parameters considered: <ul style="list-style-type: none"> • The expected long-term reduction in risk posed by the site • The level of effort needed to maintain the remedy and monitor the area for changes in site conditions • The compatibility of the remedy with planned future use of the site • Adequacy and reliability, including reliance on land disposal, potential need to replace components, and risks posed should components need replacement 	Parameters considered: <ul style="list-style-type: none"> • Treatment processes used • The amount of hazardous materials destroyed, recycled, or treated • The degree of expected reduction in toxicity, mobility, or volume and the inherent hazard posed by principal threats at the site • The degree to which the benefits of the remedial alternative are irreversible • The types, quantities, persistence, toxicity, and propensity to bioaccumulate treatment residuals that remain following treatment 	Parameters considered: <ul style="list-style-type: none"> • Protection of the community during the remedial alternative • Protection of workers during the remedial alternative • Environmental impacts during remediation • Time required to achieve protection 	Parameters considered: <ul style="list-style-type: none"> • Technical and administrative feasibility • Availability of required resources 	Parameters considered: <ul style="list-style-type: none"> • Capital costs • Operations and maintenance costs • Costs for long-term monitoring • Costs for developing and maintaining institutional controls • Net present value

TABLE 10-1

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES BY BALANCING CRITERIA

Alternative	Long-Term Effectiveness and Permanence	Reduction in Toxicity, Mobility, or Volume Through Treatment	Short-term Effectiveness	Implementability	Cost (in millions of dollars) ¹
Alternative 1 – No Action	Low	None	Low	High	\$0
	Under this alternative, there would be no method of addressing long-term effectiveness and permanence. There is no means to prevent or limit exposure to soil with PAH contamination.	No treatment is performed. No means are available to assess reduction of toxicity, mobility, or volume.	RAOs are not met under the existing site conditions; however, risks to community and workers would be minimized, because there would be no construction or other intrusive activities.	Easy to implement because it does not involve any remedial activities.	No costs incurred.
Alternative 2 – Institutional Controls	Moderate	None	High	High	\$0.25
	Land use restrictions would be imposed through institutional controls. The alternative is moderately effective and permanent by limiting access to impacted soil at depths greater than 4 feet bgs.	Implementation of ICs does not result in a reduction of toxicity, mobility, or volume through treatment.	Effective in the short term because it does not involve any excavation, transportation, or treatment activities; therefore, there is not a potential health and safety risk to site workers or residents during the implementation of the remedial action.	Highly implementable without significant delays because no construction activities are involved.	Cost is more expensive than Alternative 1 but less costly than Alternative 3.

TABLE 10-1

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES BY BALANCING CRITERIA

Alternative	Long-Term Effectiveness and Permanence	Reduction in Toxicity, Mobility, or Volume Through Treatment	Short-term Effectiveness	Implementability	Cost (in millions of dollars) ¹
Alternative 3 – Institutional Controls and excavation from 0 to 2 feet in DAs 1, 2, 3, and 6 in Parcel 181 with off-site disposal and backfill	Moderate Land use restrictions would be imposed through institutional controls. The alternative is moderately effective and permanent by limiting access to impacted soil at depths greater than 4 feet bgs.	None Implementation of ICs and excavation does not result in a reduction of toxicity, mobility, or volume through treatment.	Moderate A short-term risk to the public exists due to excavation and transport activities associated with soil removal. This results in a rating of moderate short-term effectiveness. ICs would be used to mitigate short-term risks following the removal action.	High Implementable and technically feasible, as demonstrated by the previous removal actions at the site.	\$4.3 Alternative 3 is the most costly of the alternatives.

Notes:

¹ Net present value in millions of dollars as estimated in the FS (CDM, 2005) and rounded to the nearest hundred thousand.

Abbreviations and Acronyms:

bgs – below ground surface
 DA – Decision Area
 DON – Department of the Navy
 DTSC – Department of Toxic Substance Control
 FS – Feasibility Study
 IC – institutional control
 PAH – polynuclear aromatic hydrocarbon
 RAO – remedial action objective

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10.5 SHORT-TERM EFFECTIVENESS

Short-term effectiveness is a measure of the benefits seen by implementation of a remedial alternative and the risks associated with its implementation. Alternative 1 has low short-term effectiveness. Although it will not adversely affect site workers, due to the lack of intrusive activities, it would not achieve the RAOs. Alternative 2 has greater short-term effectiveness and Alternative 3 is moderately effective. Alternative 2 has greater short-term effectiveness because it does not involve construction (excavation), transportation, or treatment activities; therefore, Alternative 2 does not pose potential health and safety risks to site workers or local residents.

Alternative 3 has moderate short-term effectiveness because it poses a short-term risk to the public during construction activities, including excavation and loading of trucks, and increased truck traffic associated with transporting excavated soil containing PAHs. However, engineering controls would be used to minimize the generation of dust and airborne particulates, and truck traffic would avoid residential routes as much as possible.

10.6 IMPLEMENTABILITY

All of the alternatives are rated high for implementability. Alternative 1 is readily implementable because it does not involve any remedial activities. For Alternative 2 and Alternative 3, IC development among the regulatory agencies and the DON would be required to determine the specific content and extent of the ICs. From a constructability standpoint, Alternative 3 is relatively simple to implement because the excavation is above the water table and above the depth of numerous underground utilities. Excavation combined with off-site disposal has proven to be a simple and readily available technology as evident from prior soil removal actions. Off-site disposal of soil would not require hazardous waste disposal based on the documented concentrations of impacted soil from previous removal actions. Previous characterization indicates the existing soil should pass existing hazardous waste criteria.

10.7 COST

No costs are incurred for Alternative 1, making it the lowest cost. The net present value (in 2005 dollars) of Alternative 2 was estimated to cost \$254,000 (subsequently escalated in 2006 is \$261,000), and Alternative 3 is estimated to cost \$4.3 million. Estimated costs for the three alternatives are provided in Table 10-2.

10.8 STATE ACCEPTANCE

The State of California concurs with the DON's selected remedial alternative, Alternative 2.

10.9 COMMUNITY ACCEPTANCE

The Proposed Plan (DON, 2006b) was presented to the community and discussed in a public meeting. Comments were received from two individuals during the public meeting and the RAB during the written comment period. The responsiveness summary portion of this ROD addresses the public's comments and concerns about the selected remedy for Site 25 soil and is presented as Appendix D.

TABLE 10-2
REMEDIAL ALTERNATIVES COST COMPARISON

Alternative	Estimated Cost ¹ (in \$ millions)
Alternative 1 – No Action	\$0
Alternative 2 – Institutional Controls	\$0.25
Alternative 3 – Institutional Controls and excavation from 0 to 2 feet in DAs 1, 2, 3, and 6 in Parcel 181 with off-site disposal and backfill	\$4.3

Notes:

¹ The costs were determined in the Feasibility Study (CDM, 2005).

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11.0 PRINCIPAL THREAT WASTE

Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be contained in a reliable manner or would present a significant risk to human health or the environment should exposure occur. The primary chemical source at Site 25, remaining PAH-impacted soils, is not acutely toxic and not mobile. Additionally, the selected remedy is protective of human health and the environment. Based on this, the PAH-impacted soil remaining at the site does not constitute a principal threat waste.

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12.0 SELECTED REMEDY

Based on the FS (CDM, 2005) and Administrative Record (Appendix A) for Site 25 as well as an evaluation of all comments on the Proposed Plan (DON, 2006b) submitted by interested parties during the public comment period (Appendix D), the DON has selected Alternative 2 as the remedy for soil. Alternative 2 requires ICs for soils below a depth of 4 feet across the site.

The DON, in coordination with the regulatory agencies and considering the previous TCRAs completed for soil at the site, has concluded that ICs are warranted for soil at depths below 4 feet at Site 25 and for major site work consisting of removal of buildings and hardscape. The carcinogenic risks associated with PAH exposures in soil are within the NCP Risk Management Range for soils between 0 and 4 feet bgs. Additionally, the non-carcinogenic risks as expressed by the HI are below 1.0. Therefore, ICs will not be required for soils from 0 to 4 feet in depth. Risk assessment studies indicate that soil within the 0 to 4 feet range does not present any significant risk to receptors. ICs will be required for major site work consisting of removal of buildings and hardscape as a management decision made in conjunction with the regulatory agencies to provide controls for soil management, handling, and disposal during major site work. The DON selected Alternative 2, which uses ICs to manage long-term risks by minimizing exposure to PAH-impacted soil containing unacceptable levels of PAHs. Alternative 2 has high short-term effectiveness, moderate long-term effectiveness, high implementability, and a relatively low cost while fully protecting human health and the environment and complying with all environmental regulations and laws.

Based on the high confidence level that risks are not underestimated; extensive site characterization has been completed; and the previously completed TCRAs at the site, which removed soil with the highest PAH concentrations, it has been determined that the NCP Risk Management Range is protective of human health for the residential exposures at Site 25. Implementation of the Selected Remedy as the response action secures the site and addresses long-term risks by reducing exposure through implementation of ICs. The Selected Remedy meets the threshold criteria of CERCLA and satisfies the five statutory requirements of CERCLA 121(b).

The remediation costs (approximately \$254,000) for Alternative 2, which includes engineering and design of ICs as well as a monitoring plan, annual inspections, and 5-year reviews, as estimated in the FS (CDM, 2005) are presented herein as Table 12-1. Costs for the selected remedy were escalated for 2006 and now total approximately \$261,000.

12.1 INSTITUTIONAL CONTROLS

ICs are legal and administrative mechanisms used to implement land use and access restrictions to limit the exposure of future landowner(s) and/or user(s) of the property to hazardous substances and to maintain the integrity of the selected remedy. Monitoring and inspections are conducted to ensure that the ICs are being followed.

Legal mechanisms include proprietary controls such as restrictive covenants, negative easements, equitable servitudes, lease restrictions, and deed notices. Administrative mechanisms include notices, adopted local land use plans and ordinances, construction permitting, or other existing land use management systems that may be used to ensure compliance with use restrictions.

12.1.1 Site 25 Institutional Controls

Two separate removal actions occurred at Site 25. Following the removal actions, the risks associated with PAH exposure range from 1×10^{-4} to 2×10^{-7} across the site at the 0 to 4 foot level.

ICs will be implemented for excavation of soil from depths greater than 4 feet and for major site work consisting of removal of buildings and hardscape. Institutional controls will be implemented at Site 25 to further the IC objectives of 1) restricting uses of the property in order to protect current and future occupants of the property as well as ensure the continuing effectiveness of previous response actions and 2) limiting the exposure of occupants of the property to hazardous substances and maintaining integrity of the previous response actions.

Institutional controls are the final remedy for Site 25 soil consistent with the intended land use, and no further CERCLA response action is required. This ROD is intended to support all necessary remedial action required to support a Feasibility of Suitability to Transfer (FOST) determination. The area requiring ICs at Site 25 is shown on Figure 12-1.

12.1.2 Interim Institutional Controls

Housing formerly occupied by USCG personnel is currently vacant and unused except for the USCG Housing Maintenance Office. Should the DON lease Site 25 housing property prior to the property transfer, the DON shall include in the lease, restrictions no less restrictive than the use restrictions and controls described in this ROD. Any actions taken by DON prior to transfer will be consistent with the IC objectives.

12.1.3 Long-term Institutional Controls

The following land use restrictions will be incorporated into real property conveyance documents if the property is conveyed to a federal or non-federal entity:

TABLE 12-1

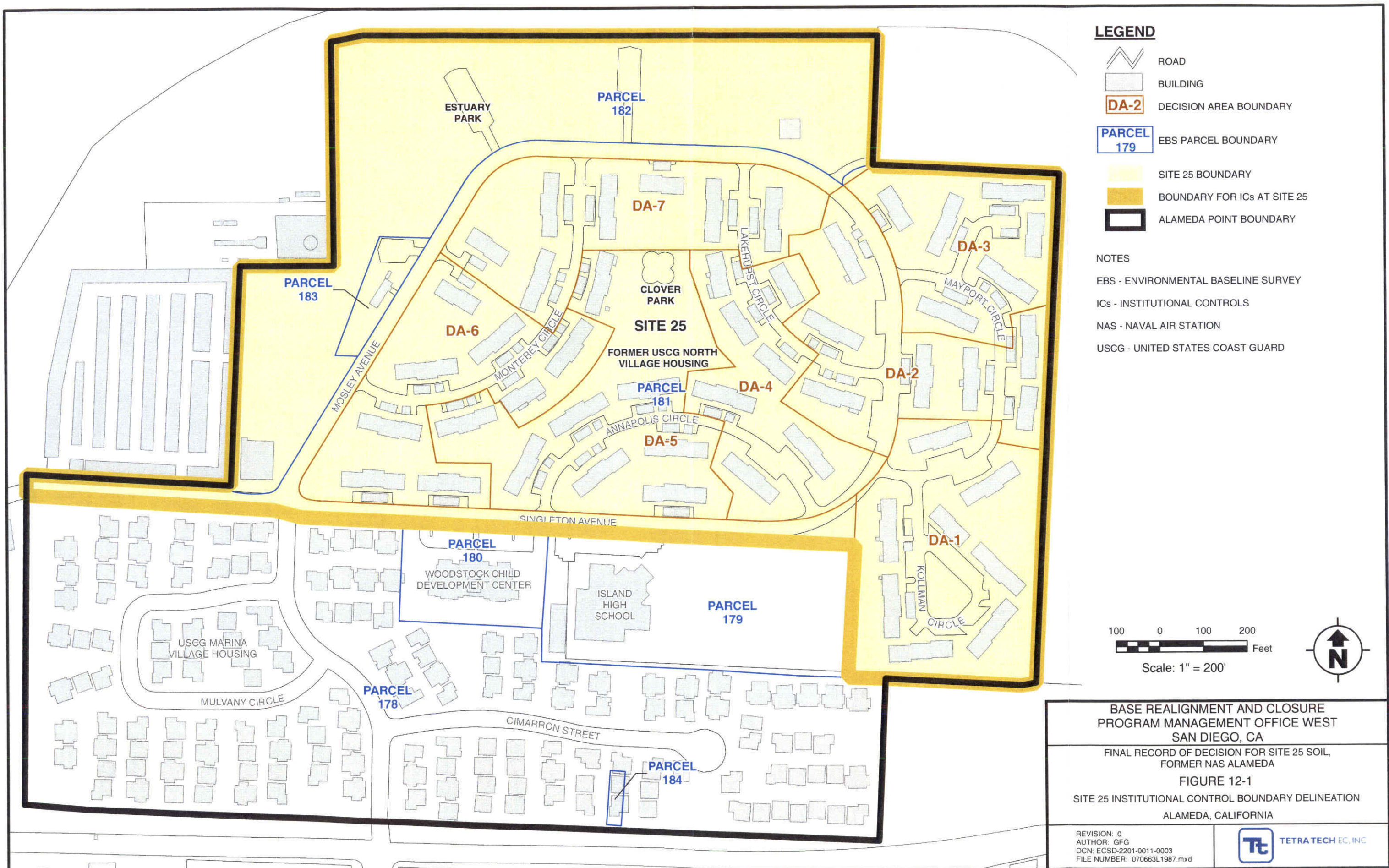
COST ESTIMATE SUMMARY FOR ALTERNATIVE 2

Item No.	Description	Estimated Cost (\$)
1	Engineering/Design/Monitoring Plan Institutional Controls (prepare documents/implement)	\$63,000
	Subtotal	\$63,000
2	Monitoring and Reporting	
	Annual inspection and 5-year review	\$145,000
	Subtotal	\$208,000
	Contingency (20%)	\$41,000
	Escalation (Base June 2005)	\$5,000
	Net Present Value of Alternative 2 (2005 dollars)	\$254,000
	TOTAL VALUE INCLUDING ESCALATION ¹ (2.79%)	\$261,000

Notes:

¹Escalation rates from Global Insight Escalation Indices for Third Quarter FY2006.

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- In areas with no hardscape (e.g., structures, concrete or paved roadways, parking lots, foundations, and sidewalks) and no buildings, there is a prohibition against excavation of soil from depths greater than 4 feet below the surface at the time of ROD issuance (pre-conveyance) unless the future landowner gains DTSC and EPA and DON approval and complies with a Soil Management Plan (SMP) to address management, handling, and disposal of soil in accordance with applicable laws and regulations. The SMP shall require approval by DON, DTSC, and EPA, unless EPA, in its discretion, determines that its review and approval of a specific SMP is not necessary. This prohibition does not apply to utility repair and utility maintenance.
- In areas with hardscape (e.g., structures, concrete or paved roadways, parking lots, foundations, and sidewalks) or buildings, beginning immediately below the hardscape or foundation, the future landowner is required to gain written approval from the DTSC and EPA and the DON and comply with a SMP for major site work consisting of demolition or removal of hardscape and buildings existing at the time of the ROD issuance (pre-conveyance). Replacement of single lot walkways and driveways are not considered major site work. This prohibition does not apply to utility repair and utility maintenance. If there is a disagreement as to whether a specific activity constitutes major site work, the decision will be made by EPA in consultation with the DON and DTSC. EPA and DTSC have indicated that for building removal and major site work, they will require an enforceable agreement requiring the SMP that will include both agencies, unless either agency in its discretion decides that its participation is not necessary. In that case, the enforceable agreement would only be with the other regulatory agency. Any enforceable agreement with EPA will provide that the final decision as to the actions to be taken will be made by EPA, in consultation with DTSC and DON, and, that in any dispute, EPA is the final decision-maker.

The Navy will not redevelop the property within Site 25 prior to transfer.

If the property within Site 25 is transferred to a federal department or agency, the land use restrictions will be incorporated into a Memorandum of Agreement (MOA) or similar agreement.

If the property within Site 25 is transferred to a non-federal entity, the land use restrictions will be incorporated into the following proprietary documents:

- Restrictive covenants no less restrictive than the use restrictions and controls described in this ROD will be included in one or more Quitclaim Deeds from the DON to the property recipient.

- Restrictive covenants no less restrictive than the use restrictions and controls described in this ROD will be included in a "Covenant to Restrict Use of Property"² entered into by the DON and DTSC as provided in the Navy/DTSC MOA (DON/DTSC, 2000) and consistent with the substantive provisions of Cal. Code Regs. tit. 22 §67391.1.

The "Covenant to Restrict Use of Property" will incorporate the ICs into environmental restrictive covenants that run with the land and that are enforceable by DTSC and the DON against future transferees. The Quitclaim Deed(s) will include the identical ICs in environmental restrictive covenants that run with the land and that will be enforceable by the DON against future transferees.

The DON shall document the need for IC implementation and monitoring actions including periodic inspections in the Remedial Design (RD) Reports to be developed and submitted to the FFA signatories for review. The Preliminary and Final RD Reports are primary documents as provided in Section 10.3 of the FFA. The Preliminary and Final RD Reports shall include a land use control (LUC) RD section to describe required IC implementation actions. Included will be:

- Requirements for CERCLA five-year remedy review;
- Frequency and requirements for periodic monitoring or visual inspections;
- Reporting results from monitoring and inspections;
- Notification procedures to the regulators for planned property conveyance, corrective action required, and/or response to actions inconsistent with ICs for the remedy;
- Consultation with EPA, DTSC, Water Board, and other government agencies regarding wording for land use restrictions and parties to be provided copies of the deed language once executed;
- Identification of responsibilities for DON, EPA, DTSC, Water Board, other government agencies, and the new property owner for implementation, monitoring, reporting, and enforcement of ICs;
- A list of ICs with their expected duration; and
- Maps identifying where ICs are to be implemented.

The DON shall be responsible for implementing, monitoring, maintaining inspecting, reporting, and enforcing the necessary ICs described in this ROD in accordance with the approved RD reports. Although the DON may later transfer these procedural responsibilities to another party

² See "Memorandum of Agreement Between the United States Department of the Navy and the California Department of Toxic Substances Control, Use of Model 'Covenant to Restrict Use of Property' at Installations Being Closed and Transferred by the United States Department of the Navy" dated March 10, 2000.

by contract, property transfer agreement, or other means, the DON shall retain ultimate responsibility for remedy integrity. Should any of the ICs fail, the DON shall ensure that appropriate actions are taken to reestablish protectiveness of the remedy and may initiate legal action to either compel action by a third party(ies) and/or recover the DON's costs for mitigating any discovered IC violation(s). The ICs shall be maintained until such time as PAH concentrations in soil have been reduced or remediated to levels that allow for unrestricted site use and exposure.

The DON and FFA signatories and their authorized agents, employees, contractors, and subcontractors shall have the right to enter upon Site 25 to conduct investigations, tests, or surveys; inspect field activities; or construct, operate, and maintain any response or remedial action as required or necessary.

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13.0 STATUTORY DETERMINATIONS

The DON's primary responsibility in regard to CERCLA is to undertake remedial actions that achieve the statutory requirements for adequate protection of human health and the environment. In addition, Section 121 of CERCLA establishes several other statutory requirements and preferences. These specify that completed remedial actions must comply with ARARs established under federal and state laws, unless a statutory waiver is justified. The selected remedy also must be cost-effective and use permanent solutions and alternative treatment technologies to the maximum extent practicable. Finally, the statute includes a preference for remedies that, as their principal element, permanently and significantly reduce the volume, toxicity, or mobility of hazardous substances. The selected remedy will obviate the need for and satisfy the corrective action requirements of the RCRA or otherwise applicable State hazardous waste or water quality protection laws. The following sections describe how the selected remedy meets these statutory requirements and preferences. Complete discussions are found in the Site 25 FS (CDM, 2005).

13.1 PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT

Results of previous investigations indicate that PAH contamination in soil to four feet bgs at Site 25 does not pose an unacceptable potential risk to human health based on current and reasonably anticipated future land uses. For the current and future residential use, the carcinogenic risk in non-hardscape areas and hardscape areas (e.g., structures, concrete or paved roadways, parking lots, foundations, and sidewalks) as well as areas covered by buildings, is within the NCP Risk Management Range for soils from surface to 4 feet bgs. The ERA concluded that there are no unacceptable ecological risks at the site. Additionally, the ERA concluded that the site supports only limited habitat, the presence of terrestrial receptors is limited, and future land uses would not create additional ecological habitat.

13.2 COMPLIANCE WITH ARARS

Section 121(d) of CERCLA (42 U.S.C. § 9621[d]), as amended, states that remedial actions on CERCLA sites must attain (or the decision document must justify the waiver of) any federal or more stringent state environmental standards, requirements, criteria, or limitations determined to be legally applicable or relevant and appropriate.

Applicable requirements are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that specifically address the situation at a CERCLA site. The requirement is applicable if the

jurisdictional prerequisites of the standard show a direct correspondence when objectively compared to the conditions at the site. An applicable federal requirement is an ARAR. An applicable state requirement is an ARAR only if it is more stringent than federal ARARs.

If the requirement is not legally applicable, then the requirement is evaluated to determine whether it is relevant and appropriate. Relevant and appropriate requirements are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that, while not applicable, address problems or situations similar to the circumstances of the proposed response action and are well suited to the conditions of the site (EPA, 1988). A requirement must be determined to be both relevant and appropriate in order to be considered an ARAR.

The criteria for determining relevance and appropriateness are listed in 40 C.F.R. § 300.400(g)(2) and include the following:

- The purpose of the requirement and the purpose of the CERCLA action
- The medium regulated or affected by the requirement and the medium contaminated or affected at the CERCLA site
- The substances regulated by the requirement and the substances found at the CERCLA site
- The actions or activities regulated by the requirement and the response action contemplated at the CERCLA site
- Any variances, waivers, or exemptions of the requirement and their availability for the circumstances at the CERCLA site
- The type of place regulated and the type of place affected by the release or CERCLA action
- The type and size of structure or facility regulated and the type and size of structure or facility affected by the release or contemplated by the CERCLA action
- Any consideration of use or potential use of affected resources in the requirement and the use or potential use of the affected resources at the CERCLA site

According to CERCLA ARARs guidance (EPA, 1988), a requirement may be “applicable” or “relevant and appropriate,” but not both. Identification of ARARs must be done on a site-specific basis and involve a two-part analysis: first, a determination whether a given requirement is applicable; then, if it is not applicable, a determination whether it is nevertheless both relevant and appropriate. It is important to explain that some regulations may be applicable or, if not applicable, may still be relevant and appropriate. When the analysis determines that a

requirement is both relevant and appropriate, such a requirement must be complied with to the same degree as if it were applicable (EPA, 1988).

Table 13-1 presents each potential ARAR with an initial determination of ARAR status (i.e., applicable, relevant and appropriate, or not an ARAR). For the determination of relevance and appropriateness, the pertinent criteria were examined to determine whether the requirements addressed problems or situations sufficiently similar to the circumstances of the release or response action contemplated, and whether the requirement was well suited to the site. A negative determination of relevance and appropriateness indicates that the requirement did not meet the pertinent criteria. Negative determinations are documented in the tables and are discussed in the text only for specific cases.

To qualify as a state ARAR under CERCLA and the NCP, a state requirement must be:

- A state law or regulation.
- An environmental or facility siting law or regulation.
- Promulgated (of general applicability and legally enforceable).
- Substantive (not procedural or administrative).
- More stringent than federal requirements.
- Identified in a timely manner.
- Consistently applied.

To constitute an ARAR, a requirement must be substantive. Therefore, only the substantive provisions of requirements identified as ARARs in this analysis are considered to be ARARs. Permits are considered to be procedural or administrative requirements. Provisions of generally relevant federal and state statutes and regulations determined to be procedural or non-environmental, including permit requirements, are not considered to be ARARs. CERCLA Section 121(e)(1), 42 U.S.C. § 9621(e)(1), states, "No Federal, State, or local permit shall be required for the portion of any removal or remedial action conducted entirely on site, where such remedial action is selected and carried out in compliance with this section." The term *on-site* is defined for purposes of this ARARs discussion as "the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action" (40 C.F.R. § 300.5).

Non-promulgated advisories or guidance issued by federal or state governments are not legally binding and do not have the status of ARARs. Such requirements may, however, be useful, and are "to be considered" (TBC) following (40 C.F.R. § 300.400[g][3]); these requirements

complement ARARs but do not override them. They are useful for guiding decisions regarding cleanup levels or methodologies when regulatory standards are not available.

Pursuant to EPA guidance (EPA, 1988), ARARs are generally divided into three categories: chemical-specific, location-specific, and action-specific requirements. This classification was developed to aid in the identification of ARARs; some ARARs do not fall precisely into one group or another. ARARs are identified on a site basis for remedial actions where CERCLA authority is the basis for cleanup.

As the lead federal agency, the DON has primary responsibility for identifying federal ARARs at Site 25 within Alameda Point. Compliance with location-specific, action-specific, and chemical-specific ARARs is described in the following subsections.

Remedial action performed under CERCLA must comply with all ARARs. The selected remedy was found to comply with all ARARs, as presented in Table 13-1.

13.2.1 Chemical-Specific ARARs

Chemical-specific ARARs are health- or risk-based numerical values or methodologies that, when applied to site-specific conditions, establish the acceptable amount or concentration of a chemical that may be found in, or discharged to, the ambient environment. There are no chemical-specific ARARs identified for the selected remedy.

13.2.2 Location-Specific ARARs

There are no location-specific ARARs identified for the selected remedy. The Migratory Bird Treaty Act was considered as a potential ARAR, but is not included as an ARAR because the selected remedy, ICs, will not affect migratory birds, and the ecological risk assessment concluded that the chemical concentrations at the site did not pose a concern to ecological receptors.

13.2.3 Action-Specific ARARs

Action-specific ARARs are technology- or activity-based requirements or limitations for remedial activities. These requirements are triggered by the particular remedial activities conducted at the site. State action-specific ARARs for the selected remedy are presented in Table 13-1.

TABLE 13-1
ACTION-SPECIFIC^a ARARs

Action	Requirement	Prerequisite	Citation	ARAR Determination	Comments
STATE – INSTITUTIONAL CONTROLS					
Cal/EPA Department of Toxic Substances Control					
Land use covenants	A land use covenant imposing appropriate limitations on land use shall be executed and recorded when facility closure, corrective action, remedial or removal action, or other response actions are undertaken, and hazardous materials, hazardous wastes, or constituents, or hazardous substances will remain at the property at levels unsuitable for unrestricted use of the land.	Transfer property by the federal government to a nonfederal entity.	Cal. Code Regs., tit. 22, § 67391.1	Relevant and Appropriate	Substantive provisions are relevant and appropriate when the DON is transferring property to a non-federal agency. EPA considers the following portions of 22 Cal. Code Regs. 67391.1 to be relevant and appropriate for this ROD: (a)(1), (a)(2), (d), (e)(1) and (e)(2).
Land use controls	Allows DTSC to enter into an agreement with the owner of a hazardous waste facility to restrict present and future land uses.	Transfer property from the DON to a nonfederal agency.	California Health & Safety Code § 25202.5	Relevant and Appropriate	The substantive provisions of California Health & Safety Code § 25202.5 are the general narrative standards to restrict “present and future uses of all or part of the land on which the facility... is located”

TABLE 13-1
ACTION-SPECIFIC^a ARARs

Action	Requirement	Prerequisite	Citation	ARAR Determination	Comments
Land Use Controls	Provides a streamlined process to be used to enter into an agreement to restrict specific use of property in order to implement the substantive use restrictions of California Health & Safety Code § 25232(b)(1)(A)-(E).	Transfer property from the DON to a nonfederal agency.	California Health & Safety Code §§ 25222.1 and 25355.5(a)(1)(C)	Relevant and appropriate	California Health and Safety Code §§ 25222.1 and California Health and Safety Code 25355.5(a)(1)(C) provide the authority for the state to enter into voluntary agreements to establish land-use covenants with the owner of property. The substantive requirements of the following California Health and Safety Code § 25222.1 provisions are "relevant and appropriate": (1) the general narrative standard: "restricting specified uses of the property, ..." and (2) "... the agreement is irrevocable, and shall be recorded by the owner, ... as a hazardous waste easement, covenant, restriction or servitude, or any combination thereof, as appropriate, upon the present and future uses of the land." The substantive requirements of the following California Health and Safety Code § 25355.5(a)(1)(C) provisions are "relevant and appropriate": "... execution and recording of a written instrument that imposes an easement, covenant, restriction, or servitude, or combination thereof, as appropriate, upon the present and future uses of the land."

TABLE 13-1
ACTION-SPECIFIC^a ARARs

Action	Requirement	Prerequisite	Citation	ARAR Determination	Comments
California Civil Code					
Land use controls	Provides conditions under which land-use restrictions will apply to successive owners of land.	Transfer property from the DON to a nonfederal entity.	Cal. Civ. Code § 1471	Relevant and Appropriate	The substantive provisions of Cal. Civ. Code § 1471 are the following general narrative standard: "... to do or refrain from doing some act on his or her own land ... where (c) Each such act relates to the use of land and each such act is reasonably necessary to protect present or future human health or safety of the environment as a result of the presence on the land of hazardous materials, as defined in § 25260 of the Health and Safety Code." This narrative standard would be implemented through incorporation of restrictive environmental covenants in the deed at the time of transfer.
Land use controls	Provides processes and criteria for obtaining written variances from a land use restriction and for removal of the land use restrictions	Transfer property from the DON to a nonfederal agency.	California Health & Safety Code § 25234	Relevant and Appropriate	California Health and Safety Code § 25234 sets for the following "relevant and appropriate" substantive criteria for the removal of a land-use restriction on the grounds that "... the waste no longer creates a significant existing or potential hazard to present or future public health or safety."

TABLE 13-1
ACTION-SPECIFIC^a ARARs

Notes:

- ^a Statutes and policies, and their citations, are provided as headings to identify general categories of proposed ARARs for the convenience of the reader. Listing the statutes and policies does not indicate that the DON accepts the entire statutes or policies as proposed ARARs; specific proposed ARARs are addressed in the table below each general heading; only substantive requirements of specific citations are considered proposed ARARs.

Abbreviations and Acronyms:

ARAR – applicable or relevant and appropriate requirement
Cal. Civ. Code – California Civil Code
Cal. Code Regs. – California Code of Regulations
Cal/EPA – California Environmental Protection Agency
DON – Department of the Navy
DTSC – Department of Toxic Substances Control
FFA – Federal Facility Agreement
§ – section
tit. – title

13.2.3.1 State Action-Specific ARARs

For Alameda Point, Site 25, substantive provisions of the following state statutes have been accepted by the DON as ARARs for implementing institutional controls and entering into a Covenant to Restrict Use of Property with DTSC in the event of a conveyance of property to a non-federal entity:

- California Civil Code Land Use Controls Section 1471 (Cal.Civ. Code § 1471)
- California Health and Safety Code Land Use Controls Sections 25202.5, 25222.1, 25234, and 25355.5

DTSC promulgated a regulation April 19, 2003, regarding "Requirements for Land-Use Covenants" at California Code of Regulations (Cal. Code Regs.), tit. 22 § 67391.1. The substantive provisions of this regulation have been determined to be "relevant and appropriate" state ARARs by DON.

The substantive provisions of Cal. Civ. Code § 1471 are the following general narrative standard: "... to do or refrain from doing some act on his or her own land ... where ...: (c) Each such act relates to the use of land and each such act is reasonably necessary to protect present or future human health or safety of the environment as a result of the presence on the land of hazardous materials, as defined in § 25260 of the Health and Safety Code." This narrative standard would be implemented through incorporation of restrictive environmental covenants in the deed at the time of transfer. These covenants would be recorded with the Covenant to Restrict Use of Property and run with the land.

The substantive provision of California Health and Safety Code § 25202.5 is the general narrative standard to restrict "present and future uses of all or part of the land on which the ...facility ... is located" This substantive provision will be implemented by incorporation of restrictive environmental covenants in the Covenant to Restrict Use of Property at the time of transfer for purposes of protecting present and future public health and safety.

California Health and Safety Code §§ 25222.1 and California Health and Safety Code 25355.5(a)(1)(C) provide the authority for the state to enter into voluntary agreements to establish land-use covenants with the owner of the property. The substantive requirements of the following California Health and Safety Code § 25222.1 provisions are "relevant and appropriate": (1) the general narrative standard: "restricting specified uses of the property, ..." and (2) "... the agreement is irrevocable, and shall be recorded by the owner, ... as a hazardous waste easement, covenant, restriction or servitude, or any combination thereof, as appropriate, upon the present and future uses of the land." The substantive requirements of the following

California Health and Safety Code § 25355.5(a)(1)(C) provisions are “relevant and appropriate”: “... execution and recording of a written instrument that imposes an easement, covenant, restriction, or servitude; or combination thereof, as appropriate, upon the present and future uses of the land.”

The DON will comply with the substantive requirements of California Health and Safety Code §§ 25222.1 and 25355.5 (a)(1)(C) by incorporating CERCLA use restrictions into the DON’s deed of conveyance in the form of restrictive covenants under the authority of Cal. Civ. Code § 1471. The substantive provisions of California Health and Safety Code §§ 25222.1 and 25355.5 (a)(1)(C) may be interpreted in a manner consistent with the substantive provisions of Cal. Civ. Code § 1471. The covenants shall be recorded with the deed and run with the land.

California Health and Safety Code § 25234 sets forth the following “relevant and appropriate” substantive criteria for the removal of a land-use restriction on the grounds that “... the waste no longer creates a significant existing or potential hazard to present or future public health or safety.”

In addition to being implemented through the Covenant to Restrict Use of Property between the DON and DTSC, the appropriate and relevant portions of California Health and Safety Code §§ 25202.5, 25222.1, 25234, and 25355.5(a)(1)(C) and Cal. Civ. Code § 1471 shall also be implemented through the deed between the DON and the transferee.

EPA agrees that the substantive portions of the state statutes and regulations referenced in this section are ARARs. EPA considers the following portions of 22 Cal. Code Regs. 67391.1 to be relevant and appropriate for this ROD: (a)(1), (a)(2), (d), (e)(1) and (e)(2). DTSC’s position is that all of the state statutes and regulations referenced in this section are ARARs.

13.3 COST-EFFECTIVENESS

The DON has concluded that Alternative 2, the selected remedy, would provide overall effectiveness proportional to its cost; it is therefore considered cost-effective. The present value for Alternative 2 as estimated in the FS (CDM, 2005) is approximately \$254,000. Costs were escalated to account for inflation, market forces, and/or variances of other variables, with the escalated value at \$261,000. Alternative 2 effectively provides a level of protection to human health and the environment similar to Alternative 3. ICs are readily implementable and have been widely used and demonstrated to be effective. Table 12-1 details the costs for the selected remedy.

13.4 USE OF PERMANENT SOLUTIONS AND ALTERNATIVE TREATMENT TECHNOLOGIES (OR RESOURCE RECOVERY TECHNOLOGIES) TO THE MAXIMUM EXTENT PRACTICABLE

The DON has determined that the selected remedy represents to the maximum extent practicable to the degree which permanent solutions and alternative treatment technologies can be used in a cost-effective manner for Site 25. Of the alternatives that are protective of human health and the environment and comply with ARARs, the DON has concluded that the selected remedy would provide the best balance of tradeoffs among the short-term effectiveness, long-term effectiveness and permanence, implementability, and cost. The selected remedy is expected to be permanent and effective over the long-term land use.

13.5 PREFERENCE FOR TREATMENT AS A PRINCIPAL ELEMENT

The selected remedy does not satisfy the statutory preference for alternative treatment as a principal element. Despite this, the selected remedy was chosen because:

- Both in situ and ex situ treatment methods were eliminated as potential alternatives in the FS (CDM, 2005). Identified technologies were screened and determined to be of limited effectiveness, difficult to implement, and potentially very costly; and
- No source materials constituting principal threats will be addressed within the scope of this remedial action (Section 11.0).

13.6 FIVE-YEAR REVIEW REQUIREMENTS

A five-year review pursuant to CERCLA Section 121 and the NCP is required if the selected remedy results in hazardous waste or chemicals remaining at the site above levels allowing unrestricted use of the site. Because PAHs will remain on site, reviews will be conducted until such time as the ICs are lifted due to the site being released for unrestricted use.

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14.0 DOCUMENTATION OF SIGNIFICANT CHANGES

The Proposed Plan for Site 25 (DON, 2006b) was released for public comment on August 21, 2006. The Proposed Plan recommended Alternative 2 for soil, which includes the implementation of ICs at the site.

The DON has reviewed all written and oral comments submitted during the public comment period and has responded to comments in the Responsiveness Summary, included as Appendix D. Upon review of these comments, the DON, EPA, DTSC, and Water Board determined that no significant changes to the selected remedial action, as it was originally identified in the Proposed Plan (DON, 2006b), were necessary or appropriate.

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APPENDIX A
ADMINISTRATIVE RECORD INDEX
FOR SITE 25 SOIL

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ALAMEDA POINT NAS

DRAFT ADMINISTRATIVE RECORD FILE INDEX - UPDATE (SORTED BY RECORD DATE/RECORD NUMBER)

FILTERED DATA BY KEYWORDS/SITES

UIC No. / Rec. No. Doc. Control No. Record Type Contr./Guid. No. Approx. # Pages	Prc. Date Record Date CTO No. EPA Cat. #	Author Affil. Author Recipient Affil. Recipient	Subject	Classification	Sites	Location SWDIV Box No(s) CD No.	FRC Accession No. FRC Warehouse FRC Box No(s)
N00236 / 000696 TC.A021.10075 MM N68711-00-D-0005 00010	06-16-2003 04-21-1998 DO 0021	TETRA TECH EM INC. NAVFAC - SOUTHWEST DIVISION	21 APRIL 1998 TRACKING MEETING MINUTES FOR ENVIRONMENTAL ACTIONS [MISSING ATTACHMENT A]	ADMIN RECORD INFO REPOSITORY	025 OU 1	SOUTHWEST DIVISION - BLDG. 1 SW060629-02 IMAGED APNT_007	181-03-0188 BOX 0014 41031858
N00236 / 000702 TC.A021.10075 MM N68711-00-D-0005 00025	06-16-2003 09-15-1998 DO 0021	TETRA TECH EM INC. NAVFAC - SOUTHWEST DIVISION	15 SEPTEMBER 1998 BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) MONTHLY TRACKING MEETING MINUTES FOR AFTER ACTION REPORT (INLCUDES ATTENDANCE SHEET, AGENDA, AND VARIOUS HANDOUTS)	ADMIN RECORD INFO REPOSITORY	014 025 OU 1	SOUTHWEST DIVISION - BLDG. 1 SW060629-02 IMAGED APNT_007	181-03-0188 BOX 0014 41031858
N00236 / 001563 NONE RPT N62474-94-D-7609 00148	11-24-1999 10-01-1998 00122 00.0	TETRA TECH EM INC. N. HUTCHISON NAVFAC - EFA WEST P. MCFADDEN	FINAL FIELD SAMPLING PLAN (FSP) SITE 14 GROUNDWATER INVESTIGATION AND SITE 25 REMEDIAL INVESTIGATION (RI)	ADMIN RECORD	014 025	SOUTHWEST DIVISION - BLDG. 1 SW060420-02 IMAGED APNT_009	181-03-0179 BOX 0040 41074200
N00236 / 000343 EFAW SER 612.6/9083 RPT N62474-94-D-7609 00109	02-26-2002 01-29-1999 00122	TETRA TECH EM INC. N. HUTCHISON NAVFAC - WESTERN DIVISION P. MCFADDEN	DATA SUMMARY REPORT REMEDIAL INVESTIGATION (INCLUDES EFA WEST TRANSMITTAL LETTER BY P. MACFADDEN)	ADMIN RECORD INFO REPOSITORY	025	SOUTHWEST DIVISION - BLDG. 1 SW060601-01 IMAGED APNT_012	181-03-0188 BOX 0001 41031858

UIC No. / Rec. No.	Doc. Control No.	Prc. Date	Author Affil.										
Record Type	Record Date	Author											
Contr./Guid. No.	CTO No.	Recipient Affil.											
Approx. # Pages	EPA Cat. #	Recipient	Subject	Classification	Sites	Location	FRC Accession No.						
						SWDIV Box No(s)	FRC Warehouse						
						CD No.	FRC Box No(s) —						
N00236 / 001679	01-21-2000	NAVFAC -	3 AUGUST 1999 RESTORATION ADVISORY	ADMIN RECORD	001	SOUTHWEST	181-03-0179	BOX 0045					
NONE	08-03-1999	WESTERN	BOARD (RAB) MEETING SUMMARY	SENSITIVE	002	DIVISION - BLDG. 1	41074200						
MM	NONE	DIVISION	(INCLUDES AGENDA, HANDOUTS AND SIGN-		003	SW060504-02							
NONE	10.4		IN SHEETS) [PORTION OF THE SIGN-IN		004	IMAGED							
00029		NAVFAC -	SHEET IS CONFIDENTIAL]		005	APNT_009							
		WESTERN			009								
		DIVISION			010								
					013								
					014								
					017								
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					020								
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					1112								
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					400								
					410								
					BLDG. 14								
					BLDG. 162								
					BLDG. 5								
					OU 1								
					OU 2								
					OU 3								
					OU 4								

UIC No. / Rec. No.	Doc. Control No.	Prc. Date	Author Affil.							
	Record Type	Record Date	Author					Location	FRC Accession No.	
	Contr./Guid. No.	CTO No.	Recipient Affil.					SWDIV Box No(s)	FRC Warehouse	
	Approx. # Pages	EPA Cat. #	Recipient	Subject	Classification	Sites		CD No.	FRC Box No(s)	
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00085			RAB MEMBERS	MATERIALS) [PORTION OF ATTACHMENT C		010		APNT_006		
				IS CONFIDENTIAL]		011				
						012				
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						BLDG. 14				
						BLDG. 400				
						BLDG. 410				
						BLDG. 5				
						BLDG. 530				
						OU 2				
N00236 / 001677		01-21-2000	NAVFAC - EFA	05 OCTOBER 1999 DRAFT RESTORATION	ADMIN RECORD	001		SOUTHWEST	181-03-0179	BOX 0045
NONE		10-05-1999	WEST	ADVISORY BOARD (RAB) MEETING		002		DIVISION - BLDG. 1	41074200	
MM		NONE		SUMMARY (INCLUDES AGENDA, VARIOUS		005		SW070511-02		
NONE		10.4	VVARIOUS	HANDOUTS AND SIGN-IN SHEETS)		010		IMAGED		
00033			AGENCIES			014		APNT_022		
						025				
						BLDG. 400				
						BLDG. 5				
						OU 1				
						OU 2				
						OU 3				

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Record Type	Record Date	Author	Recipient Affil.										
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Approx. # Pages	EPA Cat. #					SWDIV Box No(s)	FRC Warehouse						
						CD No.	FRC Box No(s)						
N00236 / 000716	06-16-2003	TETRA TECH EM	19 OCTOBER 1999 BASE REALIGNMENT	ADMIN RECORD	004	SOUTHWEST	181-03-0188	BOX 0015					
TC.A021.10075	10-19-1999	INC.	AND CLOSURE (BRAC) CLEANUP TEAM	INFO REPOSITORY	005	DIVISION - BLDG. 1	41031858						
MM	DO 021		(BCT) MONTHLY TRACKING MEETING		025	SW060629-02							
N68711-00-D-0005		NAVFAC -	AFTER ACTION REPORT (INCLUDES		OU 2	IMAGED							
00049		SOUTHWEST	ATTENDANCE LIST AND VARIOUS		OU 3	APNT_007							
		DIVISION	HANDOUT MATERIALS)										
N00236 / 001676	01-21-2000	NAVFAC -	11 NOVEMBER 1999 DRAFT RESTORATION	ADMIN RECORD	001	SOUTHWEST	181-03-0179	BOX 0045					
NONE	11-11-1999	SOUTHWEST	ADVISORY BOARD (RAB) MEETING		002	DIVISION - BLDG. 1	41074200						
MM	NONE	DIVISION	SUMMARY (INCLUDES AGENDA, VARIOUS		004	SW070427-02							
NONE	10.4		HANDOUTS AND SIGN-IN SHEETS)		006								
00030		VARIOUS			007								
		AGENCIES			008								
					010								
					012								
					015								
					016								
					017								
					018								
					020								
					024								
					025								
					BLDG. 400								
					BLDG. 5								
					OU 1								
					OU 2								
					OU 3								
					OU 4								

UIC No. / Rec. No.	Doc. Control No.	Prc. Date	Author Affil.	Record Type	Record Date	Author	Location	FRC Accession No.
Contr./Guid. No.	CTO No.	Recipient Affil.					SWDIV Box No(s)	FRC Warehouse
Approx. # Pages	EPA Cat. #	Recipient	Subject	Classification	Sites		CD No.	FRC Box No(s)
N00236 / 000511	06-11-2003	TETRA TECH EM	04 JANUARY 2000 RESTORATION	ADMIN RECORD	001		SOUTHWEST	181-03-0188 BOX 0013
TC.A021.10074	01-04-2000	INC.	ADVISORY BOARD (RAB) MEETING	INFO REPOSITORY	002		DIVISION - BLDG. 1	41031858
MM	DO 21		SUMMARY (INCLUDES AGENDA, SIGN-IN		005		SW060629-01	
N68711-00-D-0005		NAVFAC -	SHEETS AND VARIOUS HANDOUTS)		010		IMAGED	
00026		SOUTHWEST			014		APNT_007	
		DIVISION			025			
					BLDG. 400			
					OU 1			
					OU 2			
					OU 3			
					OU 4			
N00236 / 001681	02-15-2000	NAVFAC -	04 JANUARY 2000 RESTORATION	ADMIN RECORD	001		SOUTHWEST	181-03-0179 BOX 0045
NONE	01-04-2000	WESTERN	ADVISORY BOARD (RAB) MEETING	INFO REPOSITORY	002		DIVISION - BLDG. 110	41074200
MM	NONE	DIVISION	SUMMARY (WITH ENCLOSURES)		005		BOX 45 - 04/05/06	
NONE		NAVFAC -			010			
00008		SOUTHWEST			025			
		DIVISION			BLDG. 400			
					BLDG. 5			
					OU 1			
					OU 2			
					OU 3			
					OU 4			
N00236 / 000512	06-11-2003	TETRA TECH EM	01 FEBRUARY 2000 RESTORATION	ADMIN RECORD	001		CHOICE IMAGING	181-03-0188 BOX 0013
TC.A021.10074	02-01-2000	INC.	ADVISORY BOARD (RAB) MEETING		025		SOLUTIONS	41031858
MM	DO 0021		SUMMARY (INCLUDES AGENDA, SIGN-IN		OU 2		SW070817-02	
N68711-00-D-0005		NAVFAC -	SHEETS AND VARIOUS HANDOUTS)		OU 3			
00014		SOUTHWEST			OU 4			
		DIVISION						
N00236 / 001685	03-28-2000		DRAFT RAB MEETING SUMMARY FOR 1	ADMIN RECORD	001		CHOICE IMAGING	181-03-0179 BOX 0046
NONE	02-01-2000		FEBRUARY 2000		025		SOLUTIONS	41074200
MM	NONE	NAVFAC -			OU 2		SW070817-02	
NONE		SOUTHWEST			OU 3			
00040		DIVISION			OU 4			

UIC No. / Rec. No. Doc. Control No. Record Type Contr./Guid. No. Approx. # Pages	Prc. Date Record Date CTO No. EPA Cat. #	Author Affil. Author Recipient Affil. Recipient	Subject	Classification	Sites	Location SWDIV Box No(s) CD No.	FRC Accession No. FRC Warehouse FRC Box No(s)
N00236 / 000515 TC.A021.10074 MM N68711-00-D-0005 00014	06-11-2003 03-07-2000 DO 0021	TETRA TECH EM INC. NAVFAC - SOUTHWEST DIVISION	07 MARCH 2000 RESTORATION ADVISORY BOARD (RAB) MEETING SUMMARY (PORTION OF SECTION VII IS SENSITIVE) [ATTENDANCE LIST IS MISSING]	ADMIN RECORD SENSITIVE	025 OU 1 OU 2 OU 3 OU 4	SOUTHWEST DIVISION - BLDG. 1 SW060629-01 IMAGED APNT_007	181-03-0188 BOX 0013 41031858
N00236 / 000554 TC.A021.10074 MM N68711-00-D-0005 00011	06-11-2003 05-02-2000 DO 0021	TETRA TECH EM INC. NAVFAC - SOUTHWEST DIVISION	06 JUNE 2000 RESTORATION ADVISORY BOARD (RAB) MEETING SUMMARY [ATTENDANCE LIST IS MISSING]	ADMIN RECORD	006 014 015 016 025 OU 1 OU 2 OU 3 OU 4	SOUTHWEST DIVISION - BLDG. 1 SW060629-01 IMAGED APNT_007	181-03-0188 BOX 0013 41031858
N00236 / 000560 TC.A021.10074 MM N68711-00-D-0005 00009	06-11-2003 06-06-2000 DO 0021	TETRA TECH EM INC. NAVFAC - SOUTHWEST DIVISION	06 JUNE 2000 RESTORATION ADVISORY BOARD (RAB) MEETING SUMMARY [ATTENDANCE LIST IS MISSING]	ADMIN RECORD	001 025 OU 1 OU 2 OU 4	SOUTHWEST DIVISION - BLDG. 1 SW060629-01 IMAGED APNT_007	181-03-0188 BOX 0013 41031858
N00236 / 000723 TC.A021.10075 MM N68711-00-D-0005 00007	06-16-2003 06-20-2000 DO 0021	TETRA TECH EM INC. NAVFAC - SOUTHWEST DIVISION	20 JUNE 2000 DRAFT BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) MONTHLY TRACKING MEETING AFTER ACTION REPORT (INCLUDES MEETING AGENDA)	ADMIN RECORD INFO REPOSITORY	025	SOUTHWEST DIVISION - BLDG. 1 SW060907-01 IMAGED APNT_003	181-03-0188 BOX 0015 41031858

UIC No. / Rec. No.	Doc. Control No.	Prc. Date	Author Affil.										
Record Type	Record Date	Author											
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						SWDIV Box No(s)	FRC Warehouse						
						CD No.	FRC Box No(s)						
N00236 / 000568	06-11-2003	TETRA TECH EM	11 JULY 2000 RESTORATION ADVISORY	ADMIN RECORD	015	SOUTHWEST	181-03-0188	BOX 0013					
TC.A021.10074	07-11-2000	INC.	BOARD (RAB) MEETING SUMMARY		023	DIVISION - BLDG. 1	41031858						
MM	DO 0021				025	SW060629-01							
N68711-00-D-0005		NAVFAC -			OU 2	IMAGED							
00012		SOUTHWEST			OU 2A	APNT_007							
		DIVISION			OU 2B								
					OU 2C								
					OU 3								
					OU 4								
					OU 5								
N00236 / 000724	06-16-2003	TETRA TECH EM	18 JULY 2000 DRAFT BASE REALIGNMENT	ADMIN RECORD	025	SOUTHWEST	181-03-0188	BOX 0015					
TC.A021.10075	07-18-2000	INC.	AND CLOSURE (BRAC) CLEANUP TEAM	INFO REPOSITORY	OU 5	DIVISION - BLDG. 1	41031858						
MM	DO 0021		(BCT) MONTHLY TRACKING MEETING			SW060907-01							
N68711-00-D-0005		NAVFAC -	AFTER ACTION REPORT			IMAGED							
00006		SOUTHWEST				APNT_003							
		DIVISION											
N00236 / 000003	08-07-2000	ARC ECOLOGY	COMMENTS ON THE DRAFT REMEDIAL	ADMIN RECORD	025	SOUTHWEST	181-03-0179	BOX 0001					
NONE	07-19-2000	K. KLOC	ACTION PLAN/RECORD OF DECISION AND	INFO REPOSITORY		DIVISION - BLDG. 1	41074200						
COMMENTS	NONE	NAVFAC -	THE PROPOSED PLAN FOR THE MARSH			SW060123-01							
NONE		SOUTHWEST	CRUST & GROUNDWATER (FISC-ALAMEDA			IMAGED							
00009		DIVISION	ANNEX) AND FOR THE MARSH CRUST &			APNT_002							
		M. MCCLELLAND	FORMER SUBTIDAL AREA (ALAMEDA										
			POINT) [INCLUDES RESOLUTION OF THE										
			RAB DATED 4/4/00]										

UIC No. / Rec. No.	Prc. Date	Author Affil.						
Doc. Control No.	Record Date	Author					Location	FRC Accession No.
Record Type	CTO No.	Recipient Affil.					SWDIV Box No(s)	FRC Warehouse
Contr./Guid. No.	EPA Cat. #	Recipient	Subject	Classification	Sites		CD No.	FRC Box No(s)
N00236 / 000590	06-11-2003	TETRA TECH EM	03 OCTOBER 2000 RESTORATION	ADMIN RECORD	001		SOUTHWEST	181-03-0188 BOX 0013
TC.A021.10074	10-03-2000	INC.	ADVISORY BOARD (RAB) MEETING		002		DIVISION - BLDG. 1	41031858
MM	DO 0021		MINUTES (MISSING ATTENDANCE LIST)		005		SW060629-01	
N68711-00-D-0005		NAVFAC -			007		IMAGED	
00019		SOUTHWEST			013		APNT_007	
		DIVISION			025			
					OU 1			
					OU 2			
					OU 2A			
					OU 2B			
					OU 2C			
					OU 3			
					OU 4			
					OU 5			
					OU 7			
N00236 / 000727	06-16-2003	TETRA TECH EM	18 OCTOBER 2000 FINAL BASE	ADMIN RECORD	025		SOUTHWEST	181-03-0188 BOX 0015
TC.A021.10075	10-18-2000	INC.	REALIGNMENT AND CLOSURE (BRAC).	INFO REPOSITORY			DIVISION - BLDG. 1	41031858
MM	DO 0021		CLEANUP TEAM (BCT) MONTHLY TRACKING				SW060907-01	
N68711-00-D-0005		NAVFAC -	MEETING AFTER ACTION REPORT				IMAGED	
00004		SOUTHWEST					APNT_003	
		DIVISION						
N00236 / 000027	10-27-2000	NAVFAC -	ACTION MEMORANDUM (AM) FOR TIME-	ADMIN RECORD	025		SOUTHWEST	
SWDIV SER	10-20-2000	SOUTHWEST	CRITICAL REMOVAL OF PAH-	INFO REPOSITORY	OU 5		DIVISION - BLDG. 1	
06CA.RW/870	NONE	DIVISION	CONTAMINATED SOIL AT THE CLOWN				SW05072801	
MEMO		M. MCCLELLAND	PARK PLAY AREA [INCLUDES SWDIV				IMAGED	
NONE		NAVFAC -	TRANSMITTAL LETTER BY R.				APNT_001	
00017		SOUTHWEST	WEISSENBORN]					
		DIVISION						
N00236 / 000051	01-05-2001	USEPA - SAN	EPA REVIEW AND COMMENTS ON THE	ADMIN RECORD	025		SOUTHWEST	181-03-0179 BOX 0001
NONE	11-01-2000	FRANCISCO	ACTION MEMORANDUM FOR TIME-	INFO REPOSITORY	OU 5		DIVISION - BLDG. 1	41074200
COMMENTS	NONE	P. RAMSEY	CRITICAL REMOVAL ACTION OF PAH-				SW060123-01	
NONE		NAVFAC -	CONTAMINATED SOIL AT CLOWN PARK				IMAGED	
00003		SOUTHWEST	PLAY AREA				APNT_002	
		DIVISION						
		R. WEISSENBORN						

UIC No. / Rec. No.	Doc. Control No.	Prc. Date	Author Affil.							
Record Type	Record Date	Author								
Contr./Guid. No.	CTO No.	Recipient Affil.								
Approx. # Pages	EPA Cat. #	Recipient	Subject	Classification	Sites	Location SWDIV Box No(s) CD No.	FRC Accession No. FRC Warehouse FRC Box No(s)			
N00236 / 000728 TC.A021.10075 MM N68711-00-D-0005 00004	06-16-2003 11-21-2000 DO 0021	TETRA TECH EM INC. NAVFAC - SOUTHWEST DIVISION	21 NOVEMBER 2000 FINAL BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) MONTHLY TRACKING MEETING AFTER ACTION REPORT	ADMIN RECORD INFO REPOSITORY	001 025	SOUTHWEST DIVISION - BLDG. 1 SW060907-01 IMAGED APNT_003	181-03-0188 41031858	BOX 0015		
N00236 / 000729 TC.A021.10075 MM N68711-00-D-0005 00007	06-16-2003 12-19-2000 DO 0021	TETRA TECH EM INC. NAVFAC - SOUTHWEST DIVISION	19 DECEMBER 2000 FINAL BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) MONTHLY TRACKING MEETING AFTER ACTION REPORT	ADMIN RECORD INFO REPOSITORY	025	SOUTHWEST DIVISION - BLDG. 1 SW060907-01 IMAGED APNT_003	181-03-0188 41031858	BOX 0015		
N00236 / 000052 SWDIV SER 06CA.RW/1042 LTR NONE 00003	01-05-2001 12-20-2000 NONE	NAVFAC - SOUTHWEST DIVISION M. MCCLELLAND USEPA - SAN FRANCISCO P. RAMSEY	NAVY'S RESPONSES TO COMMENTS BY EPA ON THE ACTION MEMORANDUM FOR TIME-CRITICAL REMOVAL ACTION OF PAH- CONTAMINATED SOIL AT THE CLOWN PARK PLAY AREA	ADMIN RECORD INFO REPOSITORY	025 OU 5	SOUTHWEST DIVISION - BLDG. 1 SW060123-01 IMAGED APNT_002	181-03-0179 41074200	BOX 0001		
N00236 / 000056 SWDIV SER 06CA.RW/0082 PLAN NONE 00428	01-31-2001 01-19-2001 NONE	NEPTUNE AND COMPANY, INC. NAVFAC - SOUTHWEST DIVISION R. WEISSENBORN	DRAFT REMEDIAL INVESTIGATION WORK PLAN FOR OPERABLE UNIT 5 (OU) (INCLUDES SWDIV TRANSMITTAL LETTER BY R. WEISSENBORN)	ADMIN RECORD INFO REPOSITORY	025 OU 5	SOUTHWEST DIVISION - BLDG. 1 SW060209-01 IMAGED APNT_002	181-03-0179 41074200	BOX 0002		
N00236 / 000595 TC.A021.10074 MM N68711-00-D-0005 00008	06-11-2003 03-06-2001 DO 0021	TETRA TECH EM INC. NAVFAC - SOUTHWEST DIVISION	06 MARCH 2004 RESTORATION ADVISORY BOARD (RAB) MEETING SUMMARY (MISSING ATTENDANCE LIST)	ADMIN RECORD	005 025 PARCEL 125 PARCEL 178	SOUTHWEST DIVISION - BLDG. 1 SW060629-01 IMAGED APNT_007	181-03-0188 41031858	BOX 0013		

UIC No. / Rec. No.	Doc. Control No.	Prc. Date	Author Affil.						
Record Type	Record Date	Author					Location	FRC Accession No.	
Contr./Guid. No.	CTO No.	Recipient Affil.					SWDIV Box No(s)	FRC Warehouse	
Approx. # Pages	EPA Cat. #	Recipient	Subject	Classification	Sites	CD No.		FRC Box No(s)	
N00236 / 000073 NONE MISC NONE 00010	03-26-2001 03-20-2001 NONE	U.S. EPA, SAN FRANCISCO, CA P. RAMSEY NAVFAC - SOUTHWEST DIVISION R. WEISSENBORN	EPA PRELIMINARY REVIEW AND COMMENTS ON THE DRAFT REMEDIAL INVESTIGATION WORK PLAN	ADMIN RECORD INFO REPOSITORY	025 OU 5		SOUTHWEST DIVISION - BLDG. 1 SW061005-01 IMAGED APNT_016	181-03-0179 41074200	BOX 0002
N00236 / 000596 TC.A021.10074 MM N68711-00-D-0005 00019	06-11-2003 04-03-2001 DO 0021	TETRA TECH EM INC. NAVFAC - SOUTHWEST DIVISION	03 APRIL 2001 FINAL RESTORATION ADVISORY BOARD (RAB) MEETING SUMMARY (INCLUDES MEETING AGENDA AND SIGN-IN SHEETS)	ADMIN RECORD	014 015 017 024 025 OU 1 OU 2 OU 4		SOUTHWEST DIVISION - BLDG. 1 SW060629-01 IMAGED APNT_007	181-03-0188 41031858	BOX 0013
N00236 / 000082 NONE COMMENTS NONE 00008	04-12-2001 04-04-2001 NONE	DTSC - BERKELEY M. CASSA NAVFAC - SOUTHWEST DIVISION R. WEISSENBORN	REVIEW AND COMMENTS ON THE DRAFT REMEDIAL INVESTIGATION WORK PLAN (WITH ENCLOSURE)	ADMIN RECORD INFO REPOSITORY	025 OU 5		SOUTHWEST DIVISION - BLDG. 1 SW060123-01 IMAGED APNT_002	181-03-0179 41074200	BOX 0003
N00236 / 000083 NONE COMMENTS NONE 00010	04-12-2001 04-05-2001 NONE	USEPA - SAN FRANCISCO A. COOK NAVFAC - SOUTHWEST DIVISION R. WEISSENBORN	REVIEW AND COMMENTS ON THE DRAFT REMEDIAL INVESTIGATION WORK PLAN (WITH ENCLOSURE)	ADMIN RECORD INFO REPOSITORY	025 OU 5		SOUTHWEST DIVISION - BLDG. 1 SW060123-01 IMAGED APNT_002	181-03-0179 41074200	BOX 0003
N00236 / 000395 NONE COMMENTS NONE 00007	06-28-2002 04-10-2001 NONE	DTSC - BERKELEY M. CASSA NAVFAC - SOUTHWEST DIVISION R. WEISSENBORN	TRANSMITTAL OF SUPPLEMENTAL COMMENTS BY THE HUMAN AND ECOLOGICAL RISK DIVISION ON THE DRAFT REMEDIAL INVESTIGATION WORK PLAN FOR OPERABLE UNIT 5 (OU 5), DATED 19 JANUARY 2001 (W/ ENCLOSURE) (PORTION OF THE MAILING LIST IS CONFIDENTIAL)	ADMIN RECORD INFO REPOSITORY SENSITIVE	025 OU 5		SOUTHWEST DIVISION - BLDG. 1 SW060615-01 IMAGED APNT_004	181-03-0188 41031858	BOX 0003

UIC No. / Rec. No.	Doc. Control No.	Prc. Date	Author Affil.						
Record Type	Record Date	Author					Location	FRC Accession No.	
Contr./Guid. No.	CTO No.	Recipient Affil.					SWDIV Box No(s)	FRC Warehouse	
Approx. # Pages	EPA Cat. #	Recipient	Subject	Classification	Sites		CD No.	FRC Box No(s)	
N00236 / 000607 TC.A021.10074 MM N68711-00-D-0005 00042	06-11-2003 08-07-2001 DO 0021	TETRA TECH EM INC. NAVFAC - SOUTHWEST DIVISION	07 AUGUST 2001 FINAL RESTORATION ADVISORY BOARD (RAB) MEETING SUMMARY (INCLUDES AGENDA, SIGN-IN SHEETS, AND VARIOUS HANDOUTS)	ADMIN RECORD	025 026		SOUTHWEST DIVISION - BLDG. 1 SW060629-01 IMAGED APNT_007	181-03-0188 41031858	BOX 0013
N00236 / 000249 SWDIV SER 06CA.ADV1041 CORRESP NONE 00003	10-11-2001 09-27-2001 NONE	NAVFAC - SOUTHWEST DIVISION A. DICK DTSC, BERKELEY, CA D. MURPHY	NAVY'S REQUEST FOR DTSC TO IDENTIFY POTENTIAL APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARS) FOR A PROPOSED TIME CRITICAL REMOVAL ACTION FOR PAH CONTAMINATED SOIL, COAST GUARD HOUSING	ADMIN RECORD INFO REPOSITORY	025		SOUTHWEST DIVISION - BLDG. 1 SW060309-01 IMAGED APNT_011	181-03-0179 41074200	BOX 0012
N00236 / 000296 FWSD-RAC-02-0225 MEMO N68711-98-D-5713 00120	12-06-2001 11-26-2001 00040	FOSTER WHEELER NAVFAC - SOUTHWEST DIVISION	DRAFT ACTION MEMORANDUM CERCLA TIME CRITICAL REMOVAL ACTION	ADMIN RECORD INFO REPOSITORY	025 OU 5		CHOICE IMAGING SOLUTIONS SW070817-01	181-03-0179 41074200	BOX 0013
N00236 / 000297 FWSD-RAC-02-0206 RPT N68711-98-D-5713 00630	12-06-2001 11-26-2001 00040	FOSTER WHEELER A. ELOSKOF NAVFAC - SOUTHWEST DIVISION	FINAL REMOVAL ACTION WORK PLAN CERCLA TIME CRITICAL REMOVAL ACTION AT SITE 25, REVISION 0 (SEE AR #360 - DRAFT ADDENDUM & #363 - FINAL ADDENDUM) [MISSING FACT SHEETS IN ATTACHMENT 2 OF APPENDIX K]	ADMIN RECORD INFO REPOSITORY	025 OU 5		SOUTHWEST DIVISION - BLDG. 1 SW061106-01 IMAGED APNT_021	181-03-0179 41074200	BOX 0013
N00236 / 000611 TC.A021.10074 MM N68711-00-D-0005 00011	06-11-2003 12-04-2001 DO 0021	TETRA TECH EM INC. NAVFAC - SOUTHWEST DIVISION	04 DECEMBER 2001 FINAL RESTORATION ADVISORY BOARD (RAB) MEETING SUMMARY (INCLUDES MEETING AGENDA AND SIGN-IN SHEETS)	ADMIN RECORD	005 025		SOUTHWEST DIVISION - BLDG. 1 SW060629-01 IMAGED APNT_007	181-03-0188 41031858	BOX 0013

UIC No. / Rec. No.	Doc. Control No.	Prc. Date	Author Affil.							
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Approx. # Pages	EPA Cat. #	Recipient	Subject	Classification	Sites	Location SWDIV Box No(s) CD No.	FRC Accession No. FRC Warehouse FRC Box No(s)			
N00236 / 000741 TC.A021.10075 MM N68711-00-D-0005 00011	06-17-2003 12-18-2001 DO 0021	TETRA TECH EM INC. NAVFAC - SOUTHWEST DIVISION	18 DECEMBER 2001 FINAL BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) MONTHLY TRACKING MEETING AFTER ACTION REPORT (INCLUDES AGENDA)	ADMIN RECORD INFO REPOSITORY	004 007 013 014 015 025	SOUTHWEST DIVISION - BLDG. 1 SW060907-01 IMAGED APNT_003	181-03-0188 BOX 0015 41031858			
N00236 / 001824 SWDIV SER 06CA.RW/1343 RPT NONE 01200	04-30-2004 12-21-2001 NONE	NEPTUNE AND COMPANY, INC. NAVFAC - SOUTHWEST DIVISION	DRAFT OPERABLE UNIT 5 (OU 5) REMEDIAL INVESTIGATION REPORT (CD COPY OF APPENDICES F THROUGH I ENCLOSED) [INCLUDES SWDIV TRANSMITTAL LETTER BY R. WEISSENBORN]	ADMIN RECORD INFO REPOSITORY	025 OU 5	SOUTHWEST DIVISION - BLDG. 1 SW060601-04				
N00236 / 000612 TC.A021.10074 MM N68711-00-D-0005 00047	06-12-2003 01-08-2002 DO 0021	TETRA TECH EM INC. NAVFAC - SOUTHWEST DIVISION	08 JANUARY 2002 DRAFT RESTORATION ADVISORY BOARD (RAB) MEETING SUMMARY (INCLUDES MEETING AGENDA, SIGN-IN SHEETS, AND VARIOUS HANDOUTS)	ADMIN RECORD INFO REPOSITORY	005 014 015 025 BLDG. 195	SOUTHWEST DIVISION - BLDG. 1 SW060629-01 IMAGED APNT_007	181-03-0188 BOX 0013 41031858			
N00236 / 000742 TC.A021.10075 MM N68711-00-D-0005 00072	06-17-2003 01-15-2002 DO 0021	TETRA TECH EM INC. NAVFAC - SOUTHWEST DIVISION	15 JANUARY 2002 FINAL BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) MONTHLY TRACKING MEETING AFTER ACTION REPORT (INCLUDES AGENDA, SIGN-IN SHEET, AND VARIOUS HANDOUTS) [PORTION OF THE SIGN-IN SHEET IS SENSITIVE]	ADMIN RECORD INFO REPOSITORY SENSITIVE	005 014 015 025 028	SOUTHWEST DIVISION - BLDG. 1 SW061005-01 IMAGED APNT_016	181-03-0188 BOX 0015 41031858			
N00236 / 000317 FWSD-RAC-02-0403 RPT N68711-98-D-5713 00120	01-23-2002 01-18-2002 00040	FOSTER WHEELER NAVFAC - SOUTHWEST DIVISION	FINAL ACTION MEMORANDUM, CERCLA TIME-CRITICAL REMOVAL ACTION [SEE AR # 425 AND AR # 397 - ADDENDA]	ADMIN RECORD INFO REPOSITORY	025 OU 5	CHOICE IMAGING SOLUTIONS SW070817-01				

UIC No. / Rec. No. Doc. Control No. Record Type Contr./Guid. No. Approx. # Pages	Prc. Date Record Date CTO No. EPA Cat. #	Author Affil. Author Recipient Affil. Recipient	Subject	Classification	Sites	Location SWDIV Box No(s) CD No.	FRC Accession No. FRC Warehouse FRC Box No(s) —
N00236 / 000329 FWSD-RACIII-02-0467 MISC N68711-98-D-5713 00002	02-26-2002 01-21-2002 00040	ALAMEDA TIMES NAVFAC - SOUTHWEST DIVISION	PUBLIC NOTICE: NOTICE OF AVAILABILITY AND PUBLIC COMMENT PERIOD ON THE ACTION MEMORANDUM FOR CERCLA TIME-CRITICAL REMOVAL ACTION AT SITE 25	ADMIN RECORD INFO REPOSITORY	025	SOUTHWEST DIVISION - BLDG. 1 SW05072801 IMAGED APNT_001	
N00236 / 000330 FWSD-RACIII-02-0467 PUB NOTICE N68711-98-D-5713 00002	02-26-2002 01-21-2002 00040	OAKLAND TRIBUNE N. HART NAVFAC - SOUTHWEST DIVISION	PUBLIC NOTICE: NOTICE OF AVAILABILITY AND PUBLIC COMMENT PERIOD ON THE ACTION MEMORANDUM FOR COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA) TIME-CRITICAL REMOVAL ACTION (TCRA)	ADMIN RECORD INFO REPOSITORY	025	SOUTHWEST DIVISION - BLDG. 1 SW061120-01 IMAGED APNT_023	
N00236 / 000616 TC.A021.10074 MM N68711-00-D-0005 00032	06-12-2003 02-05-2002 DO 0021	TETRA TECH EM INC. NAVFAC - SOUTHWEST DIVISION	05 FEBRARY 2002 DRAFT RESTORATION ADVISORY BOARD (RAB) MEETING SUMMARY (INCLUDES MEETING AGENDA, SIGN-IN SHEETS, AND VARIOUS HANDOUTS) [PORTIONS OF ATTACHMENT C ARE SENSITIVE]	ADMIN RECORD INFO REPOSITORY SENSITIVE	025 026 BLDG. 162 OU 5	SOUTHWEST DIVISION - BLDG. 1 SW060629-01 IMAGED APNT_007	181-03-0188 BOX 0013 41031858
N00236 / 000355 NONE CORRESP NONE 00001	04-10-2002 02-25-2002 NONE	US EPA - SAN FRANCISCO D. JORDAN NAVFAC - SOUTHWEST DIVISION M. MCCLELLAND	CONCURRENCE ON THE ACTION MEMORANDUM FOR TIME-CRITICAL REMOVAL ACTION	ADMIN RECORD INFO REPOSITORY	025 OU 5	CHOICE IMAGING SOLUTIONS SW070817-01	181-03-0188 BOX 0001 41031858
N00236 / 000443 NONE COMMENTS NONE 00005	11-13-2002 03-01-2002 NONE	ARC ECOLOGY L. LOIZOS NAVFAC - SOUTHWEST DIVISION R. WEISSENBORN	COMMENTS ON THE DRAFT REMEDIAL INVESTIGATION REPORT FOR OPERABLE UNIT 5 (OU 5)	ADMIN RECORD INFO REPOSITORY	025 OU 5	SOUTHWEST DIVISION - BLDG. 1 SW060601-02 IMAGED APNT_013	181-03-0188 BOX 0006 41031858

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Record Type	Record Date	Author								
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Approx. # Pages	EPA Cat. #	Recipient	Subject	Classification	Sites	Location SWDIV Box No(s) CD No.	FRC Accession No. FRC Warehouse FRC Box No(s) —			
N00236 / 000380 NONE COMMENTS NONE 00007	06-27-2002 03-19-2002 NONE	US EPA - SAN FRANCISCO A. COOK NAVFAC - SOUTHWEST DIVISION R. WEISSENBORN	COMMENTS ON THE DRAFT REMEDIAL INVESTIGATION REPORT FOR OPERABLE UNIT 5 (OU 5)	ADMIN RECORD INFO REPOSITORY	025 OU 5 PARCEL 178 PARCEL 181 PARCEL 182	SOUTHWEST DIVISION - BLDG. 1 SW060615-01 IMAGED APNT_004	181-03-0188 BOX 0003 41031858			
N00236 / 000746 TC.A021.10075 MM N68711-00-D-0005 00039	06-17-2003 03-26-2002 DO 0021	TETRA TECH EM INC. NAVFAC - SOUTHWEST DIVISION	26 MARCH 2002 FINAL BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) MONTHLY TRACKING MEETING AFTER-ACTION REPORT (INCLUDES AGENDA, SIGN-IN SHEET, AND VARIOUS HANDOUTS) [PORTION OF THE SIGN-IN SHEET IS SENSITIVE]	ADMIN RECORD INFO REPOSITORY SENSITIVE	014 015 025	SOUTHWEST DIVISION - BLDG. 1 SW070112-01 IMAGED APNT_008	181-03-0188 BOX 0015 41031858			
N00236 / 000360 FWSD-RAC-02-0652 RPT N68711-98-D-5713 00258	04-22-2002 03-29-2002 00040	FOSTER WHEELER A. ELOSKOF NAVFAC - SOUTHWEST DIVISION	DRAFT ADDENDUM TO THE REMOVAL ACTION WORK PLAN, CERCLA TIME-CRITICAL REMOVAL ACTION AT SITE 25, REVISION 0 (SEE AR #297 - WORK PLAN & #363 - FINAL ADDENDUM) [MISSING FIGURE A.4-1 IN APPENDIX A]	ADMIN RECORD INFO REPOSITORY	025 OU 5	SOUTHWEST DIVISION - BLDG. 1 SW061106-01 IMAGED APNT_021	181-03-0188 BOX 0001 41031858			
N00236 / 000425 FWSD-RACIII-02-0621 MISC N68711-98-D-5713 00175	09-25-2002 03-29-2002 00040	FOSTER WHEELER NAVFAC - SOUTHWEST DIVISION	FINAL ACTION MEMORANDUM ADDENDUM CERCLA TIME-CRITICAL REMOVAL ACTION [SEE AR #317 - ACTION MEMORANDUM]	ADMIN RECORD INFO REPOSITORY	025 OU 5 PARCEL 181 PARCEL 182 PARCEL 183	CHOICE IMAGING SOLUTIONS SW070817-01	181-03-0188 BOX 0005 41031858			
N00236 / 000619 TC.A021.10074 MM N68711-00-D-0005 00040	06-12-2003 04-02-2002 DO 0021	TETRA TECH EM INC. NAVFAC - SOUTHWEST DIVISION	02 APRIL 2002 DRAFT RESTORATION ADVISORY BOARD (RAB) MEETING SUMMARY (INCLUDES MEETING AGENDA, SIGN-IN SHEETS, AND VARIOUS HANDOUTS) [PORTION OF THE DOCUMENT IS SENSITIVE]	ADMIN RECORD INFO REPOSITORY SENSITIVE	025 BLDG. 397	SOUTHWEST DIVISION - BLDG. 1 SW060629-01 IMAGED APNT_007	181-03-0188 BOX 0013 41031858			

UIC No. / Rec. No.	Doc. Control No.	Prc. Date	Author Affil.						
Record Type	Record Date	Author					Location	FRC Accession No.	
Contr./Guld. No.	CTO No.	Recipient Affil.					SWDIV Box No(s)	FRC Warehouse	
Approx. # Pages	EPA Cat. #	Recipient	Subject	Classification	Sites	CD No.		FRC Box No(s)	
N00236 / 000363 FWSD-RAC-02- 0810 & SWDIV SER 06CA.RW0401 RPT N68711-98-D-5713 00265	04-23-2002 04-19-2002 00040	FOSTER WHEELER A. ELOSKOF NAVFAC - SOUTHWEST DIVISION	FINAL ADDENDUM TO THE REMOVAL ACTION WORK PLAN, CERCLA TIME- CRITICAL REMOVAL ACTION AT SITE 25, REVISION 0 (INCLUDES SWDIV TRANSMITTAL LETTER BY R. WEISSENBORN) [SEE AR #297 - WORK PLAN & #360 - DRAFT ADDENDUM] (MISSING PAGE J.1-2 IN APPENDIX J)	ADMIN RECORD INFO REPOSITORY	025		SOUTHWEST DIVISION - BLDG. 1 SW061106-01 IMAGED APNT_021	181-03-0188 41031858	BOX 0002
N00236 / 000392 NONE COMMENTS NONE 00010	06-28-2002 04-22-2002 NONE	DTSC - BERKELEY M. LIAO NAVFAC - SOUTHWEST DIVISION R. WEISSENBORN	COMMENTS ON THE DRAFT REMEDIAL INVESTIGATION REPORT FOR OPERABLE UNIT 5 (OU 5) (INCLUDES GSU COMMENTS DATED 05 APRIL 2002)	ADMIN RECORD INFO REPOSITORY	025 OU 5 PARCEL 181 PARCEL 182 PARCEL 183		SOUTHWEST DIVISION - BLDG. 1 SW060615-01 IMAGED APNT_004	181-03-0188 41031858	BOX 0003
N00236 / 000366 FWSD-RAC-02-1119 RPT N68711-98-D-5713 00143	06-18-2002 05-14-2002 00040	FOSTER WHEELER NAVFAC - SOUTHWEST DIVISION	AMBIENT AIR SAMPLING AT INSTALLATION RESTORATION SITE 25	ADMIN RECORD INFO REPOSITORY	025		SOUTHWEST DIVISION - BLDG. 1 SW060504-01 IMAGED APNT_009	181-03-0188 41031858	BOX 0002
N00236 / 000391 NONE COMMENTS NONE 00008	06-27-2002 05-31-2002 NONE	DTSC - BERKELEY M. LIAO NAVFAC - SOUTHWEST DIVISION R. WEISSENBORN	COMMENTS ON THE DRAFT REMEDIAL INVESTIGATION REPORT - BASELINE HEALTH RISK ASSESSMENT FOR OPERABLE UNIT 5 (OU 5)	ADMIN RECORD INFO REPOSITORY	025 OU 5 PARCEL 180 PARCEL 181 PARCEL 182 PARCEL 183		SOUTHWEST DIVISION - BLDG. 1 SW060615-01 IMAGED APNT_004	181-03-0188 41031858	BOX 0003

UIC No. / Rec. No.	Doc. Control No.	Prc. Date	Author Affil.										
	Record Type	Record Date	Author							Location		FRC Accession No.	
	Contr./Guid. No.	CTO No.	Recipient Affil.							SWDIV Box No(s)		FRC Warehouse	
Approx. # Pages	EPA Cat. #		Recipient	Subject	Classification	Sites				CD No.		FRC Box No(s)	
N00236 / 000367	06-18-2002	06-14-2002	NAVFAC -	TRANSMITTAL OF DRAFT SITE	ADMIN RECORD	001				SOUTHWEST		181-03-0188	BOX 0002
SWDIV SER	NONE		SOUTHWEST	MANAGEMENT PLAN AMENDMENT (W/	INFO REPOSITORY	002				DIVISION - BLDG. 1		41031858	
06CA.AD/0624			DIVISION	ENCLOSURE) (INCLUDES DRAFT SITE		006				SW070413-01			
PLAN			A. DICK	MANAGEMENT PLAN]		007				IMAGED			
NONE			US EPA - SAN			008				APNT_022			
00035			FRANCISCO			009							
			A. COOK			013							
						014							
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						027							
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						AREA 1							
						AREA 2							
						AREA 3							
						OU 1							
						OU 2A							
						OU 2B							
						OU 2C							
						OU 3							
						OU 4A							
						OU 4B							
						OU 4C							
						OU 5							
						OU 6							

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N00236 / 000622 TC.A021.10074 MM N68711-00-D-0005 00012	06-12-2003 07-02-2002 DO 0021	TETRA TECH EM INC. NAVFAC - SOUTHWEST DIVISION	02 JULY 2002 FINAL RESTORATION ADVISORY BOARD (RAB) MEETING SUMMARY (INCLUDES MEETING AGENDA, SIGN-IN SHEETS, AND VARIOUS HANDOUTS)	ADMIN RECORD INFO REPOSITORY	025 CAA 13 CAA 6 CAA 7	SOUTHWEST DIVISION - BLDG. 1 SW060629-01 IMAGED APNT_007	181-03-0188 BOX 0013 41031858
N00236 / 000397 FWSD-RACIII-02- 1406 MISC N68711-98-D-5713 00150	07-26-2002 07-24-2002 00040	FOSTER WHEELER NAVFAC - SOUTHWEST DIVISION	FINAL ACTION MEMORANDUM ADDENDUM CERCLA TIME-CRITICAL REMOVAL ACTION (INCLUDES SWDIV TRANSMITTAL BY R. WEISSENBORN) [SEE AR #317 - FINAL ACTION MEMORANDUM] (PORTION OF THE MAILING LIST IS SENSITIVE)	ADMIN RECORD INFO REPOSITORY SENSITIVE	025 OU 5	CHOICE IMAGING SOLUTIONS SW070817-01	181-03-0188 BOX 0003 41031858
N00236 / 000407 02-1456 PUB NOTICE N68711-98-D-5713 00002	08-07-2002 08-05-2002 00040	FOSTER WHEELER PUBLIC INTEREST	PUBLIC NOTICE OF AVAILABILITY AND PUBLIC COMMENT PERIOD ON THE ACTION MEMORANDUM ADDENDUM FOR CERCLA TIME-CRITICAL REMOVAL ACTION (TCRA) PUBLISHED IN THE ALAMEDA TIMES	ADMIN RECORD INFO REPOSITORY	025	SOUTHWEST DIVISION - BLDG. 1 SW070112-01 IMAGED APNT_008	181-03-0188 BOX 0004 41031858
N00236 / 002645 02-1456 PUB NOTICE N68711-98-D-5713 00002	01-08-2007 08-05-2002 00040	FOSTER WHEELER PUBLIC INTEREST	PUBLIC NOTICE OF AVAILABILITY AND PUBLIC COMMENT PERIOD ON THE ACTION MEMORANDUM ADDENDUM FOR CERCLA TIME-CRITICAL REMOVAL ACTION (TCRA) PUBLISHED ON THE OAKLAND TRIBUNE	ADMIN RECORD	025	SOUTHWEST DIVISION - BLDG. 1 SW070112-03 IMAGED APNT_008	
N00236 / 000623 TC.A021.10074 MM N68711-00-D-0005 00029	06-12-2003 08-06-2002 DO 0021	TETRA TECH EM INC. NAVFAC - SOUTHWEST DIVISION	06 AUGUST 2002 FINAL RESTORATION ADVISORY BOARD (RAB) MEETING SUMMARY (INCLUDES MEETING AGENDA, SIGN-IN SHEETS, AND VARIOUS HANDOUTS)	ADMIN RECORD INFO REPOSITORY	001 002 025 OU 5	SOUTHWEST DIVISION - BLDG. 1 SW060629-01 IMAGED APNT_007	181-03-0188 BOX 0013 41031858

UIC No. / Rec. No.	Prc. Date	Author Affil.					Location	FRC Accession No.
Doc. Control No.	Record Date	Author					SWDIV Box No(s)	FRC Warehouse
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Approx. # Pages	EPA Cat. #	Recipient	Subject	Classification	Sites			
N00236 / 000412	08-29-2002	TETRA TECH EM	DRAFT SUPPLEMENTAL ENVIRONMENTAL	ADMIN RECORD	001		SOUTHWEST	181-03-0188 BOX 0004
TC.0190.11423 -	08-16-2002	INC.	BASELINE SURVEY (SEE AR #1054 - EBS)	INFO REPOSITORY	002		DIVISION - BLDG. 1	41031858
MOD. 2	00190	G. FOULK			003			
RPT		NAVFAC -			004			
N62474-94-D-7609		SOUTHWEST			005			
00400		DIVISION			006			
					007			
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					OU 2A			
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					OU 4B			

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Record Type	Record Date	Author					Location	FRC Accession No.	
Contr./Guid. No.	CTO No.	Recipient Affil.					SWDIV Box No(s)	FRC Warehouse	
Approx. # Pages	EPA Cat. #	Recipient	Subject	Classification	Sites		CD No.	FRC Box No(s)	
N00236 / 000627 TC.A021.10074 MM N68711-00-D-0005 00021	06-12-2003 12-03-2002 DO 0021	TETRA TECH EM INC. NAVFAC - SOUTHWEST DIVISION	03 DECEMBER 2002 FINAL RESTORATION ADVISORY BOARD (RAB) MEETING SUMMARY (INCLUDES MEETING AGENDA, SIGN-IN SHEETS, AND VARIOUS HANDOUTS)	ADMIN RECORD INFO REPOSITORY	025 026 031 OU 5		SOUTHWEST DIVISION - BLDG. 1 SW060629-01 IMAGED APNT_007	181-03-0188 41031858	BOX 0013
N00236 / 000755 NONE MM NONE 00027	06-17-2003 12-17-2002 NONE	TETRA TECH EM INC. NAVFAC - SOUTHWEST DIVISION	17 DECEMBER 2002 FINAL BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) MONTHLY TRACKING MEETING AFTER ACTION REPORT (INCLUDES AGENDA, SIGN-IN SHEET, AND VARIOUS HANDOUTS)	ADMIN RECORD INFO REPOSITORY	025 OU 1 OU 2		SOUTHWEST DIVISION - BLDG. 1 SW060907-01 IMAGED APNT_003	181-03-0188 41031858	BOX 0015
N00236 / 000470 SWDIV SER 06CA.AD/0357 RPT NONE 00031	02-06-2003 01-16-2003 NONE	NAVFAC - SOUTHWEST DIVISION A. DICK U.S. EPA A. COOK	TRANSMITTAL OF SITE MANAGEMENT PLAN UPDATE (W/ ENCLOSURE)	ADMIN RECORD INFO REPOSITORY	017 020 024 025 029 OU 1 OU 2A OU 2B OU 2C OU 3 OU 4A OU 4B OU 4C OU 5 OU 6		SOUTHWEST DIVISION - BLDG. 1 SW060615-02 IMAGED APNT_004	181-03-0188 41031858	BOX 0010

UIC No. / Rec. No.	Doc. Control No.	Prc. Date	Author Affil.	Record Type	Record Date	Author	Location	FRC Accession No.
Contr./Guid. No.	CTO No.	Recipient Affil.					SWDIV Box No(s)	FRC Warehouse
Approx. # Pages	EPA Cat. #	Recipient	Subject	Classification	Sites	CD No.	FRC Box No(s)	
N00236 / 000772	08-04-2003	NAVFAC -	JULY 2003 ALAMEDA POINT FOCUS	ADMIN RECORD	001	SOUTHWEST	181-03-0188	BOX 0016
NONE	07-01-2003	SOUTHWEST	ENVIRONMENTAL NEWSLETTER		002	DIVISION - BLDG. 1	41031858	
PUB NOTICE	NONE	DIVISION			003	SW070112-01		
NONE		M. MCCLELLAND			004	IMAGED		
00016		PUBLIC INTEREST			005	APNT_008.		
					006			
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Record Type	Record Date	Author								
Contr./Guid. No.	CTO No.	Recipient Affil.								
Approx. # Pages	EPA Cat. #	Recipient	Subject	Classification	Sites	Location SWDIV Box No(s) CD No.	FRC Accession No. FRC Warehouse FRC Box No(s)			
N00236 / 001797 TC.B010.10186 MM N68711-03-D-5104 00032	04-22-2004 07-15-2003 00010	SULTECH NAVFAC - SOUTHWEST DIVISION	15 JULY 2003 FINAL BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) MONTHLY TRACKING MEETING MINUTES AFTER ACTION REPORT (INCLUDES AGENDA, SIGN-IN SHEETS, AND VARIOUS HANDOUTS) [PORTION OF THE SIGN-IN SHEET IS SENSITIVE]	ADMIN RECORD INFO REPOSITORY SENSITIVE	004 007 025	SOUTHWEST DIVISION - BLDG. 1 SW060814-01 IMAGED APNT_014				
N00236 / 001803 TC.B010.10187 MM N68711-03-D-5104 00034	04-22-2004 08-05-2003 00010	SULTECH NAVFAC - SOUTHWEST DIVISION	05 AUGUST 2003 FINAL RESTORATION ADVISORY BOARD (RAB) MEETING SUMMARY (INCLUDES MEETING AGENDA, SIGN-IN SHEETS AND VARIOUS HANDOUTS) [ATTENDANCE LIST IS MISSING]	ADMIN RECORD INFO REPOSITORY	001 002 003 005 006 007 008 009 011 014 016 021 025 026 027 BLDG. 195	SOUTHWEST DIVISION - BLDG. 1 SW060814-01 IMAGED APNT_014				
N00236 / 001305 SWDIV SER 06CA.GC/1186 RPT N68711-00-D-0004 00322	08-20-2003 08-15-2003 DO 0038	CDM FEDERAL PROGRAMS CORP. NAVFAC - SOUTHWEST DIVISION	DRAFT SOIL FEASIBILITY STUDY REPORT(PORION OF MAILING LIST IS CONFIDENTIAL)	ADMIN RECORD INFO REPOSITORY SENSITIVE	025 OU 5	SOUTHWEST DIVISION - BLDG. 1 SW05072801 IMAGED APNT_001				
N00236 / 002035 FWSD-RAC-03-3647 RPT N68711-98-D-5713 00374	05-13-2005 10-31-2003 00040	FOSTER WHEELER A. ELOSKOF NAVFAC - SOUTHWEST DIVISION	FINAL PROJECT CLOSEOUT REPORT, CERCLA TIME CRITICAL REMOVAL ACTION (TCRA) [CD COPY OF APPENDICES A THROUGH J ENCLOSED].	ADMIN RECORD	025	SOUTHWEST DIVISION - BLDG. 1 SW060907-04 IMAGED APNT_003				

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Doc. Control No.	Prc. Date	Author Affil.						Location	FRC Accession No.
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Approx. # Pages	EPA Cat. #	Recipient	Subject	Classification	Sites				
N00236 / 001757	01-15-2004	NAVFAC -	SITE MANAGEMENT PLAN UPDATE -	ADMIN RECORD	001			SOUTHWEST	
SWDIV SER	11-05-2003	SOUTHWEST	[INCLUDES SWDIV TRANSMITTAL LETTER	INFO REPOSITORY	002			DIVISION - BLDG. 1	
06CA.AD/1416	NONE	DIVISION	BY M. MCCLELLAND]		003			SW060814-01	
RPT		M. MCCLELLAND			004			IMAGED	
NONE		US EPA - SAN			005			APNT_014	
00033		FRANCISCO			006				
		A. COOK			007				
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					OU 2B				
					OU 2C				
					OU 3				
					OU 4A				
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					OU 5				
					OU 6				

UIC No. / Rec. No. Doc. Control No. Record Type Contr./Guid. No. Approx. # Pages	Prc. Date Record Date CTO No. EPA Cat. #	Author Affil. Author Recipient Affil. Recipient	Subject	Classification	Sites	Location SWDIV Box No(s) CD No.	FRC Accession No. FRC Warehouse FRC Box No(s)
N00236 / 002387 NONE COMMENTS NONE 00003	08-15-2006 07-28-2004 NONE	DTSC - BERKELEY M. LIAO NAVFAC - SOUTHWEST DIVISION T. MACCHIARELLA	ACKNOWLEDGEMENT OF RECEIPT OF FINAL PROJECT CLOSEOUT REPORT, CERCLA TIME-CRITICAL REMOVAL ACTION (TCRA) [PORTION OF THE MAILING LIST IS SENSITIVE]	ADMIN RECORD SENSITIVE	025	SOUTHWEST DIVISION - BLDG. 1 SW061106-02 IMAGED APNT_021	
N00236 / 001894 TC.B010.10255 MM N68711-03-D-5104 00068	11-22-2004 08-05-2004 00010	SULTECH NAVFAC - SOUTHWEST DIVISION	05 AUGUST 2004 DRAFT RESTORATION ADVISORY BOARD (RAB) MEETING SUMMARY (INCLUDES AGENDA AND VARIOUS HANDOUTS) [CD COPY ENCLOSED] (PORTION OF THE MAILING LIST FOR ATTACHMENT B-1 IS SENSITIVE)	ADMIN RECORD INFO REPOSITORY	025 030 BLDG. 1 OU 1 OU 2A OU 2B	SOUTHWEST DIVISION - BLDG. 1 SW060907-02 IMAGED APNT_003	
N00236 / 001863 SWDIV SER. 06CA.DN/0831 RPT N68711-00-D-0004 01354	08-18-2004 08-13-2004 DO 0038	CDM FEDERAL PROGRAM CORP. P. BLOISA NAVFAC - SOUTHWEST DIVISION	REVISED DRAFT SOIL FEASIBILITY STUDY REPORT - VOLUMES 1-2 OF 2, FOLDERS 1 OF 1 [INCLUDES SWDIV TRANSMITTAL LETTER BY T. MACCHIARELLA] (PORTION OF MAILING LIST IS CONFIDENTIAL) (SEE AR# 1305 DRAFT SOIL FEASIBILITY REPORT)	ADMIN RECORD INFO REPOSITORY SENSITIVE	025 OU 5	SOUTHWEST DIVISION - BLDG. 1 SW061005-02 IMAGED APNT_019	
N00236 / 001910 TC.B010.10263 MM N68711-03-D-5104 00022	12-29-2004 10-19-2004 00010	SULTECH NAVFAC - SOUTHWEST DIVISION	19 OCTOBER 2004 FINAL BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) MONTHLY TRACKING MEETING MINUTES FOR THE AFTER ACTION REPORT (INCLUDES AGENDA AND VARIOUS HANDOUTS)	ADMIN RECORD INFO REPOSITORY	013 015 025 OU 5	SOUTHWEST DIVISION - BLDG. 1 SW060907-02 IMAGED APNT_003	
N00236 / 002672 NONE COMMENTS NONE 00011	01-25-2007 11-15-2004 NONE	USEPA - SAN FRANCISCO A. COOK NAVFAC - SOUTHWEST DIVISION T. MACCHIARELLA	REVIEW AND COMMENTS ON REVISED DRAFT SOIL FEASIBILITY STUDY (FS) REPORT	ADMIN RECORD INFO REPOSITORY	025	SOUTHWEST DIVISION - BLDG. 110	

UIC No. / Rec. No.	Doc. Control No.	Prc. Date	Author Affil.								Location	FRC Accession No.
Record Type	Record Type	Record Date	Author								SWDIV Box No(s)	FRC Warehouse
Contr./Guid. No.	CTO No.	CTO No.	Recipient Affil.								CD No.	FRC Box No(s) —
Approx. # Pages	EPA Cat. #	EPA Cat. #	Recipient	Subject	Classification	Sites						
N00236 / 001957 NONE RESPONSE NONE 00009	02-15-2005 11-16-2004 NONE	02-15-2005 11-16-2004 NONE	CDM FEDERAL PROGRAMS CORP. L. DAVIDSON U.S. EPA - SAN FRANCISCO A. COOK	RESPONSE TO COMMENTS ON THE REVISED DRAFT SOIL FEASIBILITY STUDY REPORT FOR OPERABEL UNIT 5 (OU 5)	ADMIN RECORD INFO REPOSITORY	025 OU 5					SOUTHWEST DIVISION - BLDG. 1 SW061005-02 IMAGED APNT_016	
N00236 / 002006 TC.B010.10264 MM N68711-03-D-5104 00057	04-12-2005 11-16-2004 00010	04-12-2005 11-16-2004 00010	SULTECH BRAC PMO WEST	16 NOVEMBER 2004 FINAL BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) MONTHLY TRACKING MEETING AFTER ACTION REPORT (INCLUDES AGENDA AND VARIOUS HANDOUT MATERIALS)	ADMIN RECORD INFO REPOSITORY	025 028 030 OU 2A OU 2B OU 5					SOUTHWEST DIVISION - BLDG. 1 SW060921-02 IMAGED APNT_005	
N00236 / 002388 NONE COMMENTS NONE 00004	08-15-2006 11-16-2004 NONE	08-15-2006 11-16-2004 NONE	RAB L. LOIZOS NAVFAC - SOUTHWEST T. MACCHIARELLA	RESTORATION ADVISORY BOARD (RAB) COMMENTS ON REVISED DRAFT SOIL FEASIBILITY STUDY REPORT	ADMIN RECORD	025 OU 5					SOUTHWEST DIVISION - BLDG. 1 SW061120-04 IMAGED APNT_024	
N00236 / 001901 SWDIV SER BPMOW.CXD/0129 MISC NONE 00050	12-02-2004 11-22-2004 NONE	12-02-2004 11-22-2004 NONE	NAVFAC - SOUTHWEST DIVISION R. PLASEIED EPA - SAN FRANCISCO	TRANSMITTAL OF RESPONSE TO REGULATOR COMMENTS FOR THE SPRING 2003 ALAMEDA POINT QUARTERLY GROUNDWATER REPORTS	ADMIN RECORD INFO REPOSITORY	001 002 005 007 008 025					SOUTHWEST DIVISION - BLDG. 110 06/21/06	
N00236 / 002673 NONE COMMENTS NONE 00005	01-25-2007 12-21-2004 NONE	01-25-2007 12-21-2004 NONE	DTSC - BERKELEY M. LIAO NAVFAC - SOUTHWEST DIVISION T. MACCHIARELLA	REVIEW AND COMMENTS ON REVISED DRAFT SOIL FEASIBILITY STUDY (FS) REPORT	ADMIN RECORD INFO REPOSITORY	025					SOUTHWEST DIVISION - BLDG. 110	

UIC No. / Rec. No.	Doc. Control No.	Prc. Date	Author Affil.						
Record Type	Record Date	Author							
Contr./Guid. No.	CTO No.	Recipient Affil.							
Approx. # Pages	EPA Cat. #	Recipient	Subject	Classification	Sites	Location SWDIV Box No(s) CD No.	FRC Accession No. FRC Warehouse FRC Box No(s)		
N00236 / 002433 NONE COMMENTS NONE 00017	08-22-2006 07-15-2005 NONE	USEPA - SAN FRANCISCO A. COOK NAVFAC - SOUTHWEST DIVISION T. MACCHIARELLA	REVIEW AND COMMENTS ON DRAFT PROPOSED PLAN (PP) FOR SOIL AND GROUNDWATER, ESTUARY PARK AND THE COAST GUARD HOUSING AREA	ADMIN RECORD	025 OU 5	SOUTHWEST DIVISION - BLDG. 1 SW060921-05 IMAGED APNT_006			
N00236 / 002399 NONE COMMENTS NONE 00016	08-21-2006 07-16-2005 NONE	DTSC - BERKELEY H. WONG BRAC PMO WEST T. MACCHIARELLA	REVIEW AND COMMENTS ON DRAFT PROPOSED PLAN FOR SOIL AND GROUNDWATER, ESTUARY PARK AND THE COAST GUARD HOUSING AREA (INCLUDES COMMENTS BY R. PERRY DATED 15 JULY 2005) [PORTION OF THE MAILING LIST IS SENSITIVE]	ADMIN RECORD SENSITIVE	002 025 OU 5	SOUTHWEST DIVISION - BLDG. 1 SW060921-05 IMAGED APNT_006			
N00236 / 002179 BRAC SER BPMOW.MEP/1464 RPT N68711-00-D-004 00068	12-22-2005 12-14-2005 DO 0038	CDM FEDERAL PROGRAMS BRAC PMO WEST	DRAFT PROPOSED PLAN FOR INSTALLATION RESTORATION (IR) SITE SOIL (INCLUDES BRAC PMO WEST TRANSMITTAL LETTER BY T. MACCHIARELLA AND DRAFT RESPONSES TO AGENCY COMMENTS)	ADMIN RECORD	025	SOUTHWEST DIVISION - BLDG. 1 SW060921-04 IMAGED APNT_006			
N00236 / 002230 NONE CORRESP NONE 00002	03-10-2006 01-12-2006 NONE	DTSC - BERKELEY M. LIAO BRAC PMO WEST T. MACCHIARELLA	REQUEST FOR COMMENT DEADLINE EXTENSION ON DRAFT PROPOSED PLANS	ADMIN RECORD	025	SOUTHWEST DIVISION - BLDG. 1 SW060921-04 IMAGED APNT_006			
N00236 / 002216 NONE COMMENTS NONE 00006	02-15-2006 01-18-2006 NONE	US EPA - SAN FRANCISCO A. COOK BRAC PMO WEST T. MACCHIARELLA	REVIEW AND COMMENTS ON DRAFT PROPOSED PLAN	ADMIN RECORD	025	SOUTHWEST DIVISION - BLDG. 1 SW060921-04 IMAGED APNT_006			
N00236 / 002225 NONE COMMENTS NONE 00005	03-02-2006 02-15-2006 NONE	DTSC - BERKELEY M. LIAO BRAC PMO WEST T. MACCHIARELLA	REVIEW AND COMMENTS ON THE DRAFT PROPOSED PLAN (PORTION OF THE MAILING LIST IS SENSITIVE)	ADMIN RECORD SENSITIVE	025 OU 5	SOUTHWEST DIVISION - BLDG. 1 SW060921-04 IMAGED APNT_006			

UIC No. / Rec. No.	Doc. Control No.	Prc. Date	Author Affil.								
Record Type	Record Date	Author									
Contr./Guid. No.	CTO No.	Recipient Affil.									
Approx. # Pages	EPA Cat. #	Recipient	Subject	Classification	Sites	Location SWDIV Box No(s) CD No.	FRC Accession No. FRC Warehouse FRC Box No(s)				
N00236 / 002414 BRAC SER BPMOW.MEP0306 CORRESP NONE 00002	08-21-2006 03-29-2006 NONE	BRAC PMO WEST T. MACCHIARELLA VARIOUS AGENCIES	FEDERAL FACILITY AGREEMENT (FFA) EXTENSION FOR DRAFT FINAL PROPOSED PLAN	ADMIN RECORD	025	SOUTHWEST DIVISION - BLDG. 1 SW061120-04 IMAGED APNT_024					
N00236 / 002313 BRAC SER BPMOW.MEP/0410 CORRESP NONE 00003	05-19-2006 05-03-2006 NONE	BRAC PMO WEST T. MACCHIARELLA VARIOUS AGENCIES	SUBMITTAL OF EXTENSION LETTER FOR THE DRAFT FINAL PROPOSED PLAN	ADMIN RECORD	025	SOUTHWEST DIVISION - BLDG. 1 SW061005-05 IMAGED APNT_018					
N00236 / 002314 BRAC SER BMPOW.MEP/0403 CORRESP NONE 00003	05-19-2006 05-03-2006 NONE	BRAC PMO WEST T. MACCHIARELLA VARIOUS AGENCIES	TRANSMITTAL OF WORKING DRAFT FINAL PROPOSED PLAN (SEE AR #2315 - WORKING DRAFT FINAL PROPOSE PLAN)	ADMIN RECORD	025	SOUTHWEST DIVISION - BLDG. 1 SW060921-05 IMAGED APNT_006					
N00236 / 002315 NONE RPT NONE 00013	05-19-2006 05-04-2006 NONE	BRAC PMO WEST VARIOUS AGENCIES	WORKING DRAFT FINAL PROPOSED PLAN (SEE AR #2314 - BRAC PMO WEST TRANSMITTAL LETTER BY T. MACCHIARELLA)	ADMIN RECORD	025	SOUTHWEST DIVISION - BLDG. 1 SW060921-05 IMAGED APNT_006					
N00236 / 002361 BRAC SER BPMOW.MEP/0588 CORRESP NONE 00006	07-14-2006 07-05-2006 NONE	BRAC PMO WEST T. MACCHIARELLA VARIOUS AGENCIES	TRANSMITTAL OF DRAFT FINAL PROPOSED PLAN (INCLUDES RESPONSES TO INFORMAL AGENCY COMMENTS ON THE WORKING DRAFT FINAL PROPOSED PLAN) [SEE AR #2362 - DRAFT FINAL PROPOSED PLAN]	ADMIN RECORD	025	SOUTHWEST DIVISION - BLDG. 1 SW061023-03 IMAGED APNT_021					
N00236 / 002362 NONE RPT N68711-00-D-0004 00014	07-14-2006 07-06-2006 DO 0038	CDM FEDERAL PROGRAMS CORP. BRAC PMO WEST	DRAFT FINAL PROPOSED PLAN (SEE AR #2361 - BRAC PMO WEST TRANSMITTAL LETTER BY T. MACCHIARELLA)	ADMIN RECORD	025	SOUTHWEST DIVISION - BLDG. 1 SW061023-03 IMAGED APNT_021					

UIC No. / Rec. No. Doc. Control No. Record Type Contr./Guid. No. Approx. # Pages	Prc. Date Record Date CTO No. EPA Cat. #	Author Affil. Author Recipient Affil. Recipient	Subject	Classification	Sites	Location SWDIV Box No(s) CD No.	FRC Accession No. FRC Warehouse FRC Box No(s) —
N00236 / 002466 7574 RPT N68711-00-D-0004 00017	08-23-2006 08-01-2006 DO 0038	CDM L. DAVIDSON BRAC PMO WEST M. PARKER	PROPOSED PLAN (PP), SOIL (SEE AR #2465 - BRAC PMO WEST TRANSMITTAL LETTER BY T. MACCHIARELLA)	ADMIN RECORD INFO REPOSITORY	025	SOUTHWEST DIVISION - BLDG. 1 SW061023-04 IMAGED APNT_019	
N00236 / 002465 BRAC SER BPMOW.MEP/0705 CORRESP NONE 00003	08-23-2006 08-18-2006 NONE	BRAC PMO WEST T. MACCHIARELLA VARIOUS AGENCIES	TRANSMITTAL OF FINAL PROPOSED PLAN (PP), SOIL (W/OUT ENCLOSURE) [SEE AR #2466 - FINAL PP]	ADMIN RECORD INFO REPOSITORY	025	SOUTHWEST DIVISION - BLDG. 1 SW061023-04 IMAGED APNT_019	
N00236 / 002861 NONE PUBLIC NOTICE NONE 00001	09-20-2007 08-21-2006 NONE	PERSONAL INTEREST	PUBLIC NOTICE OF THE 12 SEPTEMBER 2006 RESTORATION ADVISORY BOARD (RAB) MEETING PUBLISHED IN THE OAKLAND TRIBUNE	ADMIN RECORD INFO REPOSITORY	025	SOUTHWEST DIVISION - BLDG. 1	
N00236 / 002862 NONE PUBLIC NOTICE NONE 00001	09-20-2007 08-22-2006 NONE	PUBLIC INTEREST	PUBLIC NOTICE OF THE 12 SEPTEMBER 2006 RESTORATION ADVISORY BOARD (RAB) MEETING PUBLISHED IN THE ALAMEDA JOURNAL	ADMIN RECORD INFO REPOSITORY	025	SOUTHWEST DIVISION - BLDG. 1	
N00236 / 002552 NONE COMMENTS NONE 00004	10-03-2006 09-19-2006 NONE	RAB MEMBER G. HUMPHREYS BRAC PMO WEST T. MACCHIARELLA	REVIEW AND ACCUMULATED COMMENTS ON PROPOSED PLAN (PP) [PORTION OF THE DOCUMENT IS SENSITIVE]	ADMIN RECORD SENSITIVE	025	SOUTHWEST DIVISION - BLDG. 1 SW061120-04 IMAGED APNT_024	
N00236 / 002634 ECSD-RACIV-07- 0139 RPT N62473-06-D-2201 00170	12-20-2006 12-01-2006 00011	TETRA TECH EC, INC. BRAC PMO WEST	DRAFT RECORD OF DECISION (ROD), SOIL [CD COPY ENCLOSED] (SEE AR #2635 - BRAC PMO WEST TRANSMITTAL LETTER BY T. MACCHIARELLA)	ADMIN RECORD INFO REPOSITORY	025	SOUTHWEST DIVISION - BLDG. 110	

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Approx. # Pages	EPA Cat. #	Recipient	Subject	Classification	Sites	SWDIV Box No(s)	FRC Warehouse				
						CD No.	FRC Box No(s)				
N00236 / 002635	12-20-2006	BRAC PMO WEST	TRANSMITTAL OF DRAFT RECORD OF	ADMIN RECORD	025	SOUTHWEST					
BRAC SER	12-19-2006	T. MACCHIARELLA	DECISION (ROD), SOIL [W/OUT	INFO REPOSITORY		DIVISION - BLDG. 110					
BPMOW.MEP/0203	NONE	VARIOUS	ENCLOSURE] (SEE AR #2634 - DRAFT ROD)								
CORRESP		AGENCIES									
NONE											
00002											
N00236 / 002870	09-24-2007	DTSC -	REVIEW AND COMMENTS ON THE DRAFT	ADMIN RECORD	025	SOUTHWEST					
NONE	03-16-2007	SACRAMENTO	RECORD OF DECISION, SOIL	INFO REPOSITORY		DIVISION - BLDG. 1					
CORRESPONDENC	NONE	D. LOFSTROM									
E		BRAC PMO WEST									
NONE		T. MACCHIARELLA									
00004											
N00236 / 002855	09-20-2007	CRWQCB -	REVIEW AND NO COMMENTS ON THE	ADMIN RECORD	025	SOUTHWEST					
2199.9285(EWS)	03-20-2007	OAKLAND	DRAFT RECORD OF DECISION	INFO REPOSITORY		DIVISION - BLDG. 1					
CORRESPONDENC	NONE	E. SIMON									
E		BRAC PMO WEST									
NONE		T. MACCHIARELLA									
00001											
N00236 / 002755	05-14-2007	US EPA - SAN	COMMENTS ON DRAFT RECORD OF	ADMIN RECORD	025	SOUTHWEST					
NONE	04-18-2007	FRANCISCO	DECISION (ROD), SOIL	INFO REPOSITORY		DIVISION - BLDG. 1					
COMMENTS	NONE	A. COOK									
NONE		BRAC PMO WEST									
00011		T. MACCHIARELLA									
N00236 / 002810	08-15-2007	ALAMEDA REUSE	COMMENTS ON THE DECEMBER 2006	ADMIN RECORD	025	SOUTHWEST					
NONE	07-17-2007	AND	DRAFT RECORD OF DECISION (ROD)	INFO REPOSITORY		DIVISION - BLDG. 1					
COMMENTS	NONE	REDEVELOPMENT									
NONE		AUTHORITY									
00002		D. POTTER									
		BRAC PMO WEST									
		R. MACCHIARELLA									
N00236 / 002827	09-11-2007	NAVFAC -	DRAFT FINAL RECORD OF DECISION, SOIL	ADMIN RECORD	025	SOUTHWEST					
ECSD-2201-0011-	08-01-2007	SOUTHWEST	(CD COPY ENCLOSED) (SEE AR # 2826 -	INFO REPOSITORY		DIVISION - BLDG. 1					
0002	00011		BRAC TRANSMITTAL LETTER BY T.								
REPORT			MACCHIARELLA]								
N62473-06-D-2201		BRAC PMO WEST									
00080											

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Sites

Location

SWDIV Box No(s)

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FRC Box No(s)

Total Estimated Record Page Count: 12,094

Total - Administrative Records: 130

[UIC NUMBER]='N00236'

No Keywords

Sites=025

No Classification

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APPENDIX B
PUBLIC NOTICES

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NOTICE OF PROPOSED PLAN AND PUBLIC COMMENT PERIOD

BRAC
PMO WEST

Installation Restoration Site 25 Former Naval Air Station Alameda

The U.S. Navy, in coordination with state and environmental regulatory agencies, encourages the public to comment on the Proposed Plan for soil at former Naval Air Station (NAS) Alameda Installation Restoration (IR) Site 25 on Alameda Point in Alameda, California. The Proposed Plan presents the preferred alternative for the Site 25 final remedy and a summary of investigations and evaluations, including a remedial investigation and human and ecological risk assessments. Site 25 is located on the northeastern corner of Alameda Point and includes the former United States Coast Guard (USCG) North Village residential housing, Estuary Park, and the USCG Housing Maintenance Office. The Navy proposes the preferred alternative of institutional controls as the second and final phase of environmental cleanup at Site 25, where polynuclear aromatic hydrocarbons (PAHs) are the soil contaminant. The PAHs are not related to a Navy release, but appear to be associated with fill that was placed at the site prior to the Navy obtaining the property. To protect the public and residents, between 2000 and 2002 the Navy removed contaminated soil during two removal actions at Site 25. Over 66,700 cubic yards of PAH-contaminated soil across approximately 26 acres was excavated and transported offsite. There is no immediate risk to children or adults in these areas. The proposed remedy, institutional controls, manages potential long-term risks associated with soil below a 4-foot depth and beneath hardscape (such as concrete or paved roads) and buildings.

PUBLIC COMMENT PERIOD

The Navy invites interested members of the public to review and comment on the Proposed Plan during the 30-day public comment period, held from August 21 through September 20, 2006. Public comments must be submitted in writing and postmarked or e-mailed no later than September 20, 2006, or comments may be provided during the public meeting on September 12, 2006. Please send all comments to: Mr. Thomas Macchiarella, BRAC Environmental Coordinator, BRAC Program Management Office West, 1455 Frazee Road, Suite 900, San Diego, California 92108, Thomas.macchiarella@navy.mil, (619) 532-0907, fax (619) 532-0940.

PUBLIC MEETING

The Navy will host a public meeting to discuss the Proposed Plan, answer questions, and accept comments.

Date & Time: Tuesday, September 12, 2006, 6:30 p.m. to 8:00 p.m.

Location: Alameda Point, 950 West Mall Square, Building 1, Room 201, Alameda, CA

FOR MORE INFORMATION

Copies of the Proposed Plan, Remedial Investigation Report, Soil Feasibility Study Report, and other site documents are available for review at two locations:

Alameda Point
950 West Mall Square
Building 1, Rooms 240-241
Alameda, California 94502

Alameda Public Library
2200 A Central Avenue
Alameda, California 94502
(510) 747-7777

If you have any questions or wish to discuss this project, please contact Mr. Thomas Macchiarella, BRAC Environmental Coordinator, by telephone, fax, or email (see above).

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NOTICE OF PROPOSED PLAN AND PUBLIC COMMENT PERIOD

BRAC
PMO WEST

Installation Restoration Site 25 Former Naval Air Station Alameda

The U.S. Navy, in coordination with state and environmental regulatory agencies, encourages the public to comment on the Proposed Plan for soil at former Naval Air Station (NAS) Alameda Installation Restoration (IR) Site 25 on Alameda Point in Alameda, California. The Proposed Plan presents the preferred alternative for the Site 25 final remedy and a summary of investigations and evaluations, including a remedial investigation and human and ecological risk assessments. Site 25 is located on the northeastern corner of Alameda Point and includes the former United States Coast Guard (USCG) North Village residential housing, Estuary Park, and the USCG Housing Maintenance Office.

The Navy proposes the preferred alternative of institutional controls as the second and final phase of environmental cleanup at Site 25, where polynuclear aromatic hydrocarbons (PAHs) are the soil contaminant. The PAHs are not related to a Navy release, but appear to be associated with fill that was placed at the site prior to the Navy obtaining the property. To protect the public and residents, between 2000 and 2002 the Navy removed contaminated soil during two removal actions at Site 25. Over 66,700 cubic yards of PAH-contaminated soil across approximately 26 acres was excavated and transported offsite.

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Alameda, California 94502

Alameda Public Library
2200 A Central Avenue
Alameda, California 94502
(510) 747-7777

If you have any questions or wish to discuss this project, please contact Mr. Thomas Macchiarella, BRAC Environmental Coordinator, by telephone, fax, or email (see above).

APPENDIX C
PROPOSED PLAN PUBLIC MEETING

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Sign-In Sheet Public Meeting for Former NAS Alameda IR Site 25, Alameda Point, California – September 12, 2006

Name Resident or Affiliation	Address (Optional)	How Did you Hear About this Meeting? (✓)				
		Mailer	Notice in the Alameda Journal	Notice in the Oakland Tribune	Word of Mouth	Other (Please list)
Name Mary Parker Navy	Street 1455 Frazee Rd City, State and Zip San Diego CA 92108					
Name Thomas Marchandella NAVY	Street 1455 Frazee Rd City, State and Zip San Diego CA 92108					
Name DALE SMITH ALAMEDA RAB	Street City, State and Zip	✓				RAB
Name Michael C Allen CDM-Fed	Street 9444 Farnham Suite 210 City, State and Zip San Diego CA 92123					Navy contractor
Name Dot Lofstrom DTSC	Street 8800 Cal Center Dr City, State and Zip SACRAMENTO CA 95826					
Name Judy C. HUANG SF Bay RWQCB	Street City, State and Zip					
Name Erich Simon SF Bay RWQCB	Street 1515 Clay St Suite 1400 City, State and Zip Oakland, CA 94612					
Name Anna-Marie Cook U.S. EPA R9	Street 75 Hawthorne St City, State and Zip SF, CA 94105					
Name Peggy Russell ARRA	Street 440 Nova Alton Way City, State and Zip SAN RAFAEL, CA 94903					

Sign-In Sheet Public Meeting for Former NAS Alameda IR Site 25, Alameda Point, California – September 12, 2006

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DEPARTMENT OF THE NAVY

BRAC PMO WEST

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PUBLIC MEETING RE: PROPOSED PLAN FOR)
INSTALLATION RESTORATION (IR) SITE 25)
SOIL AT FORMER NAVAL AIR STATION ALAMEDA)

Alameda Point

ORIGINAL

Main Office Building, Room 201

950 West Mall Square

Alameda, California

--oOo--

TUESDAY, SEPTEMBER 12, 2006

6:47 P.M.

--oOo--

REPORTED BY:

DORIS M. BAILEY, CSR, RPR, CRR

CSR License Number 8751

DOUCETTE & ASSOCIATES

1219 Marin Street

Vallejo, California 94590

(707) 554-9970

DOUCETTE & ASSOCIATES

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A P P E A R A N C E S

HEARING OFFICER:

THOMAS MACCHIARELLA
BRAC Environmental Coordinator
BRAC Program Management Office West
1455 Frazee Road, Suite 900
San Diego, California 92108-4310

MARY PARKER, U.S. Navy
Project Manager

REGULATORY AGENCY REPRESENTATIVES:

JILL VOTAW, PUBLIC AFFAIRS
ANNA-MARIE COOK, U.S. EPA
DOT LOFSTROM, DTSC
JUDY HUANG, SF BAY RWQCB
ERICH SIMON, SF BAY RWQCB

NAVY CONTRACTOR:

MICHAEL ALLEN, NAVY CONTRACTOR

ALSO PRESENT:

PATRICK LYNCH
DALE SMITH, Alameda RAB member
PETER RUSSELL, ARRA

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I N D E X

Page

Introduction and Overview of the Navy's
Installation Restoration (IR) Program

4

Proposed Plan Summary

7

Clarifying Questions

16

Public Comment

17

Closing Remarks/Adjournment

21

Certificate of Certified Shorthand Reporter

23

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1 SEPTEMBER 12, 2006

6:47 P.M.

2 P R O C E E D I N G S

3 --oOo--

4 HEARING OFFICER MACCHIARELLA: Good evening,
5 and thank you for coming. This meeting is hosted by the
6 Department of the Navy, specifically the BRAC Program
7 Management Office West.

8 This is a meeting for the Navy to present the
9 public with its preferred alternative for the
10 environmental remediation at site 25, North Coast Guard
11 Housing.

12 My name is Thomas Macchiarella, and I'm your
13 host. I'd like to introduce Ms. Mary Parker who will
14 give another presentation after mine. And she and I
15 will do our best to answer your questions this evening.

16 Before we continue, let me run through the
17 agenda real quick. We just ended our discussion period
18 in the back near the poster boards, and we're now at the
19 introduction and overview of the Navy's Installation
20 Restoration Program.

21 After which, Ms. Parker will present a summary
22 of the proposed plan.

23 After that, we will answer clarifying
24 questions.

25 Right after that, we will open it up for public

1 comment.

2 Tonight we're focused on site 25. However, I
3 think it's important to generally describe the Navy's
4 Installation Restoration Program so you may better
5 understand the current phase that we're in.

6 The management of the Installation Restoration
7 Program occurs at the BRAC Program Management Office
8 with support from the southwest division of the Navy
9 Facilities Engineering Command. The BRAC Program
10 Management Office reports to the Deputy Assistant
11 Secretary of the Navy for Installations and Environment.

12 I am the BRAC Environmental Coordinator for
13 Alameda Point, and have the responsibility and authority
14 to conduct the IR program. I'm also the Navy's
15 representative on the BRAC cleanup team, which I'll go
16 into more detail later. It's a team composed of
17 regulatory agencies working collaboratively towards
18 completing this program.

19 It is the purpose of this program to identify;
20 investigate, assess, characterize, and clean up
21 hazardous substances.

22 Reduce the risk to human health and the
23 environment.

24 To be consistent with CERCLA, or the
25 Comprehensive Environmental Response Compensation and

1 Liability Act, which is also known as Superfund in the
2 private sector.

3 And to move all of our sites towards site
4 closure. Site closure is the bottom box on this
5 diagram.

6 This flow diagram shows the CERCLA process in
7 general terms. The PA/SI at the top of the chart is the
8 beginning of the process. It's generally the site
9 discovery phase. It involves interviews, records
10 research, and initial media sampling.

11 The RI/FS, or the next step, includes detailed
12 investigation and characterization of sites, as well as
13 an analysis of alternatives for cleanup.

14 The PP, the proposed plan, which is where we
15 are now, is a presentation of the Navy's preferred
16 alternative to the public, and where the Navy seeks
17 comments from the public.

18 The ROD, record of decision documents, the
19 selected alternative.

20 Prior to selecting this alternative, the Navy
21 considers all comments from the public during the public
22 comment period. The record of decision includes a
23 responsiveness summary which addresses comments from the
24 public.

25 A little bit more detail about our Installation

1 Restoration Program, facts and figures. There are 35
2 specific sites at Alameda Point listed in the program.
3 Alameda is listed on the National Priorities List --
4 former Naval Air Station Alameda, that is. And U.S. EPA
5 is, therefore, the lead regulatory agency.

6 The BRAC cleanup team is composed of the U.S.
7 EPA, the Navy, California Department of Toxic Substances
8 Control, and the San Francisco Bay Regional Water
9 Quality Control Board. The BCT meets at least monthly,
10 and members of the BCT are present this evening.

11 There is a Federal Facilities Agreement that
12 exists between the Navy and the BRAC cleanup team
13 members. The FFA and BCT were two concepts which
14 streamlined the cleanup process by ensuring timely
15 coordination among the parties.

16 Where we are currently at site 25 is the
17 proposed plan. The proposed plan provides for community
18 involvement in the decision making process.

19 It summarizes all the environmental efforts to
20 date, such as interim cleanup actions and
21 investigations.

22 It proposes a decision called the preferred
23 alternative.

24 It leads to the record of decision.

25 All comments that we receive will be considered

1 before making this final decision. And the Navy will
2 make those decisions in consultation with the regulatory
3 agencies.

4 After the record of decision, the Navy will
5 prepare a remedial design and conduct the remedial
6 action.

7 The comment period for site 25 proposed plan is
8 August 21st through September 20th. If you'd like to
9 submit comments in writing, my address is clearly shown
10 on the proposed plan, and also you can e-mail them or
11 fax them, or give them verbally tonight at the end of
12 this meeting.

13 Do you have any questions on the Installation
14 Restoration Program, in general, before we proceed?

15 Okay. Ms. Parker.

16 MS. PARKER: I am the Navy's project manager
17 for site 25. And tonight we are talking about the
18 proposed plan for the IR site 25 soil. This site is at
19 former NAS Alameda. Briefly we'll go through the
20 following topics tonight.

21 We'll discuss the purpose of the proposed plan
22 and this meeting.

23 Provide some background information, including
24 information about the remedial investigation feasibility
25 study, which includes risk assessment information and

1 proposed remedial goals for the site, and development of
2 alternatives.

3 We'll also focus, of course, on the preferred
4 alternative, and provide additional information related
5 to community involvement.

6 The purpose is to summarize the investigations
7 and previous work to date, which includes phase one of
8 the Navy's response at this site, which was soil
9 removal.

10 This was the active phase of the remediation
11 where we removed soil across approximately 66,700 cubic
12 yards. The site area being covered by this removal was
13 approximately 26 acres.

14 Tonight we're going to talk about the second
15 and final response action for this site. This preferred
16 alternative is institutional controls which will then
17 restrict exposure to impacted soil at the site that
18 remains. This alternative, again, is the second and
19 final phase of our response for this site.

20 We are providing an opportunity for the public
21 to provide input on the preferred alternative before the
22 Navy and the agencies together select the final remedy.

23 We also wanted to inform the public about the
24 federal and state agencies that are working with the
25 Navy on this process.

1 There are several areas within site 25. They
2 include the U.S. Coast Guard North Village Residential
3 Housing area.

4 Estuary Park.

5 And the Coast Guard's Housing Maintenance
6 Office.

7 The Estuary Park area is primarily recreational
8 open space. And site 25 has also been referred to as
9 operable unit 5 in some previous documents. But
10 currently operable unit 5 is being reserved for the
11 groundwater across several sites.

12 This shows the site map for site 25, which we
13 just talked about the different areas you can see on the
14 map. There's also a larger poster of the map in the
15 back in case you would like to look at it at the end of
16 the meeting.

17 This is a little bit about the background
18 information for site 25. The contaminant here is PAHs,
19 which are polynuclear aromatic hydrocarbons. This site
20 has been used for housing since the Navy acquired the
21 property. The PAHs are not related to Navy release, but
22 appear to be associated with fill at the site that was
23 placed there prior to the Navy acquiring the property.

24 The active response was phase one which was
25 conducted earlier as what's called, under CERCLA, a

1 removal action. This was the removal of over 66,000
2 cubic yards -- actually over 66,700 cubic yards of PAH
3 impacted soil from the locations with the highest
4 concentrations that had the greatest likelihood for
5 exposure across the 26 acres.

6 After the soil removal, there was subsequent
7 testing and risk assessment as well. There's no
8 immediate risk to children, residents, or others. And
9 the risk assessment also showed that soil in the upper
10 four feet is acceptable.

11 We're going to talk a little bit more in detail
12 about the remedial investigation feasibility study now.
13 But first I want to mention the role of the regulatory
14 agencies.

15 The Navy works collaboratively with both
16 federal and state agency.

17 The state agencies include the Department of
18 Toxic Substances. Ms. Dot Lofstrom is the remedial
19 project manager for DTSC.

20 We also work with the Regional Water Quality
21 Control Board. And our current contact with the
22 regional board is Mr. Erich Simon.

23 And we also, of course, work with the federal
24 agency, U.S. EPA. And the project manager for the U.S.
25 EPA is Ms. Anna-Marie Cook.

1 Briefly, I want to talk a little bit more about
2 the RI/FS process and the reports which have been
3 conducted and issued.

4 We issued the remedial investigation report in
5 2002, and a feasibility study report in 2005.

6 We provided -- conducted both baseline and post
7 removal risk assessments.

8 The feasibility study evaluated other
9 alternatives, proposed goals, and compared these
10 alternatives.

11 The risk assessment was a part of the RI/FS
12 reports. And, again, just to briefly summarize. The
13 definition of risk is the likelihood or probability that
14 a hazardous substance, when released to the environment,
15 will cause adverse effects to exposed human or
16 ecological receptors.

17 At site 25 there are no unacceptable non-cancer
18 risks for soil from a surface to four feet below. There
19 are also, within the upper four feet, cancer risks that
20 are not unacceptable, they are protective of human
21 health for residential exposure.

22 And there is a high confidence of this
23 protectiveness due to a number of factors, including
24 that the Navy has collected over six hundred soil
25 samples, evaluated these results very conservatively,

1 and we use conservative assumptions, such as assuming
2 ingestion of home grown produce, and ingestion of soil
3 for 350 days per year for thirty years as part of our
4 assessment.

5 The maximum risk from exposure to PAHs is at
6 depths below four feet. The exposure to residents is
7 unlikely because the risk is now depth post removal. As
8 we mentioned earlier, we did remove surface soils that
9 were PAH impacted with the highest PAH concentrations.

10 There are no significant risks to ecological
11 receptors at site 25.

12 The proposed remedial goals are put forth in
13 the feasibility study for the site. The purpose is to
14 protect receptors from any potential future unacceptable
15 exposures.

16 And we assess the alternative's ability to be
17 protective of human health in the feasibility study by
18 evaluating against a number of criteria.

19 The Remedial Action Objective for the soil is
20 to prevent human exposure to soil containing PAH
21 concentrations above the concentrations that are
22 representing a lifetime cancer risk exceeding the risk
23 management range or a non-cancer hazardous index greater
24 than one.

25 The feasibility study screening and provide

1 detailed evaluation of alternatives. The alternatives
2 were compared against criteria in the national
3 contingency plan -- it's a National Oil and Hazardous
4 Substances Contingency Plan.

5 And this is a brief summary of what these
6 alternatives were.

7 We evaluated no action, which is required by
8 CERCLA.

9 We evaluated institutional controls.

10 We also evaluated IC's and soil excavation from
11 zero to two feet in depth in parcels for which there was
12 not a previous removal.

13 The -- alternative four with soil excavation to
14 four feet in depth. This also included IC's for
15 developed areas.

16 And alternative five, excavation to eight feet
17 in depth, which included IC's for developed areas as
18 well.

19 For purposes of the detailed evaluation, we
20 focused primarily on the first three alternatives, as
21 you can see here.

22 We had screened out the previous alternatives
23 four and five based on decreased effectiveness. And
24 basically based on the high cost and still -- the
25 requirement of IC's at those sites.

1 So we took the first three alternatives and
2 evaluated them against all of the criteria in the
3 National Contingency Plan. And this chart shows the
4 ranking of these three alternatives.

5 And it highlights in green the alternative
6 which was selected as the preferred alternative in
7 conjunction with input from the regulatory agencies.
8 That's alternative two, the institutional controls,
9 which, again, is the preferred alternative post removal
10 of the contaminated soil that was the highest across the
11 site.

12 Again, the alternative two uses IC's to manage
13 any potential long term risk.

14 It minimizes exposure to soil which is at a
15 depth of four feet or deeper in undeveloped areas.

16 And it also manages potential risk beneath
17 hardscape and buildings.

18 This alternative is protective of human
19 health. It is the most appropriate and feasible and
20 cost effective remedy. And again, we mentioned, it's
21 protective of human health, which is the last bullet.

22 Next slide.

23 So, in summary, we conducted two phases of
24 response to this site. The first phase was the removal
25 of the 66,700 some cubic yards across the 26 acres.

1 The second phase is the institutional controls
2 for depths four feet and deeper, and the hardscape and
3 areas under buildings.

4 We are currently in a public review period.
5 This ends September 20th.

6 There are a number of ways outlined in the
7 proposed plans to provide comments, as Thomas documented
8 earlier.

9 We also have input from the public
10 opportunities at monthly RAB meetings, and there are
11 information repositories available with additional
12 documents and information for your review.

13 Any questions?

14 HEARING OFFICER MACCHIARELLA: Thank you, Ms.
15 Parker.

16 We are now at the part of the agenda seeking
17 clarifying questions before we open it up for public
18 comment.

19 Does anybody have any questions or any
20 details?

21 Okay. Then we shall move forward to the
22 agenda -- on the agenda, the item for public comments.
23 We will be here as long as it takes between now and 8:30
24 to receive all comments, and we can begin now.

25 Do you have any?

1 MR. LYNCH: My name is Patrick Lynch.

2 HEARING OFFICER MACCHIARELLA: Welcome,
3 Patrick.

4 MR. LYNCH: I had two questions about specific
5 soil samples that were collected from the Estuary Park
6 portion of site 25.

7 One of 'em is labeled sample 182-4, and it was
8 essentially the sample that led to further sampling and
9 identified this as an IR site. It was collected outside
10 the northern boundary that is shown on the figure in the
11 proposed plan. And this sample, again, was taken over
12 twelve years ago.

13 And I'm just wondering what action has been
14 taken by, either the Navy or one of the other regulatory
15 agencies involved in this cleanup, to address that
16 contamination in that area since it is not being
17 addressed by this proposed plan.

18 The other sample I have an issue with -- and
19 I've raised it numerous times and I've never received a
20 response, was sample 182-11. And this particular sample
21 was originally reported in a draft report as containing
22 a concentration of a -- I believe 200 parts per million
23 of pentachlorophenol.

24 Now, the final version of that environmental
25 baseline survey says that a particular sample result for

1 pentachlorophenol, in that one particular sample,
2 182-11, was rejected.

3 Normally when a sample result is rejected, it
4 is maintained in a data table; it is given a flag
5 showing that it's rejected; and an explanation of what
6 quality assurance or quality control criteria was not
7 met is provided. In this case, the data was simply
8 removed from the table. There's no explanation or a
9 statement in the text that that value has been rejected.

10 They do -- the EBS goes on to not recommend any
11 further sampling for pentachlorophenol because the site
12 is part of the Installation Restoration Program. But I
13 don't see any subsequent investigation being conducted
14 for pentochlorophenyl.

15 So there is an issue, again, that was
16 originally in a draft report as a verified analytical
17 result, a positive detection, that was later removed.

18 My last -- or the concerns, I guess, are the
19 decision areas. One would have to do with the area of
20 Singleton Avenue which is not included in -- or I guess
21 it is included -- no, it's not. It's not included in
22 any of the decision areas. And, basically, I don't
23 believe any samples have been collected from Singleton
24 Avenue.

25 And Singleton Avenue contains a storm drain or

1 a storm sewer that is failing. And it's very evident
2 that the pavement on Singleton Avenue is going to fail
3 in the near future. And those storm sewers are going to
4 be serving a public elementary school and a daycare
5 center that is located on the adjacent toxic waste site.

6 And I believe that's an issue that's not going
7 to wait until the property is transferred where there's
8 going to be soil excavation, and I think it should be
9 addressed by the proposed plan.

10 The other issue I have is with the costs that's
11 included. One -- for two reasons.

12 There seems to be an assumption that PNA's are
13 not mobile in the environment, and I see no data to
14 substantiate that.

15 Principally, if we look at the rationale behind
16 the marsh crust hypothesis, is that these materials
17 floated into a wetland, were later deposited on the
18 wetland surface during low tide. And it doesn't agree
19 with the hypothesis that the fill was contaminated by
20 PAHs which would have had to sink through a water column
21 to contaminate the underlying fill.

22 An equally likely explanation is that the
23 material in the marsh crust is floating up in the
24 groundwater, and contaminating soil above.

25 And I believe that some type of monitoring of

1 the site is necessary to rule out that these
2 contaminants are migrating, potentially into the clean
3 fill that has been placed on some of these sites.

4 And I think the cost is also underestimated
5 because, based on sampling results, the area in decision
6 areas four, five, and seven, the soil beneath the
7 hardscape is contaminated to a depth of two feet. And,
8 at minimum, the cost to remediate that soil should be
9 included in the proposed plan since it's recognized that
10 the remediation will be required once the hardscape is
11 removed.

12 HEARING OFFICER MACCHIARELLA: Thank you very
13 much.

14 MS. SMITH: I have some comments. My name is
15 Dale Smith, I'm a RAB member.

16 I do not support the acceptance of alternative
17 two. The RAB has spoken on many occasions that they are
18 not happy with excavation to two feet, especially where
19 you're concerned with chemicals such as PAHs: We have
20 always preferred four feet.

21 And it has been my experience as a RAB member
22 on the Treasure Island RAB, that institutional controls
23 do not work when it's only a two foot remediation level.

24 On Treasure Island they have had to excavate to
25 four to six feet just because people are constantly

1 digging holes and putting trees and things in there,
2 even though they sign documents saying that they
3 understand that they cannot do that.

4 In fact, one person had her backyard paved
5 because she insisted on ignoring those restrictions, the
6 institutional controls.

7 And I think the only safe way to ensure that
8 people do not ignore the institutional controls, which
9 are a reasonable method for inhibiting people from
10 exposure to chemicals of this sort, is the plastic
11 barrier.

12 So what I would actually do -- in spite of the
13 fact that it costs more -- accept either alternative
14 three or alternative four. And I understand alternative
15 four is not being considered, but we have always -- the
16 RAB has always felt that two feet of remediation is not
17 adequate, especially when you're going to have families
18 and children living in those buildings, or at least
19 that's what we think is going to happen.

20 HEARING OFFICER MACCHIARELLA: Thank you very
21 much.

22 Anymore comments? Okay. Then we will stick
23 around for a little while longer to see if anybody else
24 shows up. In the meantime, we will adjourn.

25 Thank you very much for coming, everybody, and

1 providing your comments. We will supply a response in
2 the summary to the comments received in our record of
3 decision.

4 Thank you very much.

5 MS. SMITH: Thank you.

6 (Thereupon the foregoing was concluded
7 at 7:30 p.m.)
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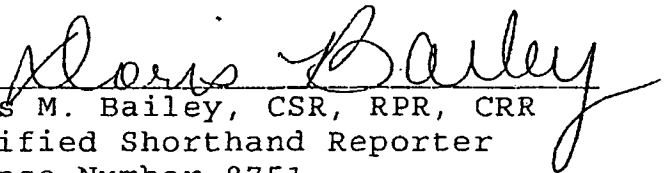
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CERTIFICATE OF CERTIFIED SHORTHAND REPORTER

I, DORIS M. BAILEY, a Certified Shorthand Reporter and Registered Professional Reporter, in and for the State of California, do hereby certify that I am a disinterested person herein; that I reported the foregoing proceedings in shorthand writing; and thereafter caused my shorthand writing to be transcribed by computer.

I further certify that I am not of counsel or attorney for any of the parties to said proceedings, nor in any way interested in the outcome of said proceedings.

IN WITNESS WHEREOF, I have hereunto set my hand as a Certified Shorthand Reporter and Registered Professional Reporter on the 19th day of September, 2006.


Doris M. Bailey, CSR, RPR, CRR
Certified Shorthand Reporter
License Number 8751

APPENDIX D
RESPONSIVENESS SUMMARY

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**RESPONSIVENESS SUMMARY FOR THE PROPOSED PLAN
FOR SITE 25 SOIL DATED AUGUST 2006
ALAMEDA, CALIFORNIA**

Number	Comment	Response
Comments from Patrick Lynch, Community Member, from Public Meeting Transcript, dated September 12, 2006		
1	<p>I had two questions about specific soil samples that were collected from the Estuary Park portion of Site 25.</p> <p>One of them is labeled sample 182-4, and it was essentially the sample that led to further sampling and identified this as an IR site. It was collected outside the northern boundary that is shown on the figure in the proposed plan. And this sample, again, was taken over twelve years ago.</p> <p>And I'm just wondering what action has been taken by, either the Navy or one of the other regulatory agencies involved in this cleanup, to address that contamination in that area since it is not being addressed by this proposed plan.</p> <p>The other sample I have an issue with -- and I've raised it numerous times and I've never received a response, was sample 182-11. And this particular sample was originally reported in a draft report as containing a concentration of a -- I believe 200 parts per million of pentachlorophenol.</p> <p>Now, the final version of that environmental baseline survey says that a particular sample result for pentachlorophenol, in that one particular sample, 182-11, was rejected.</p> <p>Normally when a sample result is rejected, it is maintained in a data table; it is given a flag showing that it's rejected; and an explanation of what quality assurance or quality control criteria was not met is provided. In this case, the data was simply</p>	<p>Sample 182-0004 (collected in November 1994 at 0.5-1.0' bgs) was located just north of the Site 25 boundary, and PAH concentrations ranged from <0.1 to 3.5 mg/kg. Soil samples were collected in the vicinity of this sample during the PA/SI for FISCA. For comparison, nearby surface soil sample 10-S-0035 collected in 2000 at 0-0.5' bgs for the PA/SI had similar but lower PAH concentrations, which ranged from nondetect to <1.0 mg/kg. Since sample 182-0004 is located in FISCA, it is addressed by the <i>Draft Focused Feasibility Study of Remedial Action Alternatives, Base-wide PAH Soils, FISCA</i> dated May 2006.</p> <p>Regarding sample 182-0011, Section 2.0 Data Quality/Data Validation of the <i>Environmental Baseline Survey, Data Evaluation Summaries -- Final, Volume IX</i>, dated January 2001 states "EBS Phase 2B analysis of pentachlorophenol in sample 182-0011 was rejected." Although the EBS analytical data were analyzed, reviewed, and validated pursuant to the project Quality Assurance Project Plan, no additional quality control/quality assurance information on the rationale for rejection of this one analyte was provided. However, a number of other samples were collected in the vicinity of sample 182-0011 during the EBS and analyzed for pentachlorophenol. Samples 182-0010 and 182-0024 were collected from the same boring as sample 182-0011 at depths of 0.5-1.0' bgs and 1.0-1.5' bgs, respectively. Pentachlorophenol was not detected in these samples. Review of the analytical results for all 14 soil samples collected in Parcel 182 (including samples</p>

**RESPONSIVENESS SUMMARY FOR THE PROPOSED PLAN
FOR SITE 25 SOIL DATED AUGUST 2006
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Number	Comment	Response
	<p>removed from the table. There's no explanation or a statement in the text that that value has been rejected.</p> <p>They do -- the EBS goes on to not recommend any further sampling for pentachlorophenol because the site is part of the Installation Restoration Program. But I don't see any subsequent investigation being conducted for pentachlorophenol.</p> <p>So there is an issue, again, that was originally in a draft report as a verified analytical result, a positive detection, that was later removed.</p>	<p>located approximately 50' north of the parcel boundary) for the EBS showed no pentachlorophenol detections.</p>
2	<p>My last -- or the concerns, I guess, are the decision areas. One would have to do with the area of Singleton Avenue which is not included in -- or I guess it is included -- no, it's not. It's not included in any of the decision areas. And, basically, I don't believe any samples have been collected from Singleton Avenue.</p> <p>And Singleton Avenue contains a storm drain or a storm sewer that is failing. And it's very evident that the pavement on Singleton Avenue is going to fail in the near future. And those storm sewers are going to be serving a public elementary school and a daycare center that is located on the adjacent toxic waste site.</p> <p>And I believe that's an issue that's not going to wait until the property is transferred where there's going to be soil excavation, and I think it should be addressed by the proposed plan.</p>	<p>Singleton Avenue is inside the Site 25 boundary, and therefore is included in the Proposed Plan. Specifically, the Proposed Plan addresses Singleton Avenue as part of the institutional controls (ICs) for hardscape. ICs, as described in Section 12.1 of the ROD, specifically require future landowners to gain written approval from the regulatory agencies and the DON and comply with a Soil Management Plan before the demolition or removal of buildings and hardscape existing at the time of the ROD issuance. Therefore, the soil present under Singleton Avenue will be managed appropriately when it is disturbed or removed.</p> <p>At this time, the Navy is preparing a contract to repair the asphalt road surfaces in Site 25. It is planned to be complete during the current fiscal year (FY07).</p>

**RESPONSIVENESS SUMMARY FOR THE PROPOSED PLAN
FOR SITE 25 SOIL DATED AUGUST 2006
ALAMEDA, CALIFORNIA**

Number	Comment	Response
3	<p>The other issue I have is with the costs that's included. One -- for two reasons.</p> <p>There seems to be an assumption that PNA's are not mobile in the environment, and I see no data to substantiate that.</p> <p>Principally, if we look at the rationale behind the marsh crust hypothesis, is that these materials floated into a wetland, were later deposited on the wetland surface during low tide. And it doesn't agree with the hypothesis that the fill was contaminated by PAHs which would have had to sink through a water column to contaminate the underlying fill.</p> <p>An equally likely explanation is that the material in the marsh crust is floating up in the groundwater, and contaminating soil above.</p> <p>And I believe that some type of monitoring of the site is necessary to rule out that these contaminants are migrating, potentially into the clean fill that has been placed on some of these sites.</p> <p>And I think the cost is also underestimated because, based on sampling results, the area in decision areas four, five, and seven, the soil beneath the hardscape is contaminated to a depth of two feet. And, at minimum, the cost to remediate that soil should be included in the proposed plan since it's recognized that the remediation will be required once the hardscape is removed.</p>	<p>The PAHs that are human carcinogens have high molecular weights and therefore sorb tightly to soil particles. These PAHs are benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-c,d)pyrene. PAHs bound to the soil would not migrate (ATSDR, 1995). This is supported by the chemical properties of the PAHs and by years of groundwater monitoring data indicating that significant concentrations of these PAHs have not been detected.</p> <p>Density-driven sinking or floating of PAHs through the groundwater does not occur. The PAHs in the fill likely originated from the coal or oil gasification plants since PAHs are coal and oil gasification wastes. Naphthalene, which is a lighter fraction PAH, is more soluble and is more likely to dissolve in groundwater, and then move with the groundwater.</p> <p>During redevelopment, costs associated with the soil are a part of the redevelopment, and may include importing 2 to 4 feet of fill for construction/geotechnical reasons and/or other costs. Costs associated with redevelopment are not part of the Navy's remedy for the site. The cost of the remedy is considered accurate.</p>
Comments from Dale Smith, RAB member, from Public Meeting Transcript, dated September 12, 2006		

**RESPONSIVENESS SUMMARY FOR THE PROPOSED PLAN
FOR SITE 25 SOIL DATED AUGUST 2006
ALAMEDA, CALIFORNIA**

Number	Comment	Response
1	<p>I do not support the acceptance of alternative two. The RAB has spoken on many occasions that they are not happy with excavation to two feet, especially where you're concerned with chemicals such as PAHs. We have always preferred four feet.</p> <p>And it has been my experience as a RAB member on the Treasure Island RAB, that institutional controls do not work when it's only a two foot remediation level.</p> <p>On Treasure Island, they have had to excavate to four to six feet just because people are constantly digging holes and putting trees and things in there, even though they sign documents saying that they understand that they cannot do that.</p> <p>In fact, one person had her backyard paved because she insisted on ignoring those restrictions, the institutional controls.</p> <p>And I think the only safe way to ensure that people do not ignore the institutional controls, which are a reasonable method for inhibiting people from exposure to chemicals of this sort, is the plastic barrier.</p> <p>So what I would actually do -- in spite of the fact that it costs more -- accept either alternative three or alternative four. And I understand alternative four is not being considered, but we have always -- the RAB has always felt that two feet of remediation is not adequate, especially when you're going to have families and children living in those buildings, or at least that's what we think is going to happen.</p>	<p>Risk management studies indicate that there are no short or long-term hazards to residents (children or adults) or workers for soils from the surface to 4 feet below surface. It is considered extremely unlikely that residents will dig below 4 feet, and therefore will not violate ICs. At Treasure Island, the excavation from 4 to 6 feet was conducted as part of removal actions where risk assessment as part of a CERCLA remedial investigation had not been conducted. Section 12.1 of the Site 25 ROD details the ICs and their implementation.</p> <p>Alternative 4 was evaluated during the FS, and it was screened out because it cost significantly more than Alternatives 1 through 3 yet provided little additional protectiveness for the large increase in costs. The FS estimated the cost for Alternative 4 to be \$18.8 million.</p>

**RESPONSIVENESS SUMMARY FOR THE PROPOSED PLAN
FOR SITE 25 SOIL DATED AUGUST 2006
ALAMEDA, CALIFORNIA**

Number	Comment	Response
Accumulated Comments from the RAB, as forwarded by George Humphreys, RAB member, dated September 19, 2006		
GENERAL COMMENTS		
1	<p>Reliance on institutional controls is undesirable. This is because it depends on institutional memory, personal memory and the frailties of human nature. Its efficiency depends on the knowledge and diligence of future employees (many of whom are now in grammar school and high school) in the Navy, the regulatory agencies and the City. We on the RAB have witnessed the many turnovers of BRAC Coordinators, regulatory personnel and community RAB members, even during the few years of RAB's existence. As an example of the unreliability of institutional memory, consider that Navy apparently has no reliable records of the types, quantities and locations of various hazardous materials disposed of into the two hazardous waste dumps at the western end of Alameda Point. The Navy also was "surprised" by the presence of the barges exposed along the western shoreline. Construction and utility workers moving dirt or digging trenches may well be unaware of any institutional controls or will be inclined to ignore them in the interests of expediting their work. The writer observed a very large and deep excavation, presumably for a sewer main, running in an east-west direction through the Bayport property. This was in an area where the excavation could have intersected the benzene-naphthalene plume or perhaps the marsh crust. I do not know whether or not institutional controls were violated, but they certainly could have been. This is cited simply as example of</p>	<p>The DON believes that ICs are reliable and effective. One of the benefits of the proprietary ICs selected by DON are that they are reduced to writing and made part of the written real estate record that is permanently recorded and runs with the land. This removes the necessity of relying on memory and recollections in the future. The restrictions that are agreed to by the regulatory agencies are in a permanent record and are legally enforceable as to actions by future generations of property owners. Section 12.1 of the ROD details the ICs and their implementation.</p> <p>The construction dewatering activities at Bayport are a good example of the effectiveness of ICs. As part of construction activities at Bayport, the developer operated under a Site Management Plan, in part due to the presence of contaminants in groundwater. The written ICs, in the record, allowed for construction site dewatering, provided that certain requirements were met. The developer provided plans and site controls including groundwater sampling which allowed the regulatory agencies and DON to approve the project.</p>

**RESPONSIVENESS SUMMARY FOR THE PROPOSED PLAN
FOR SITE 25 SOIL DATED AUGUST 2006
ALAMEDA, CALIFORNIA**

Number	Comment	Response
	how actions can be taken and covered up without the appropriate guardians of the public even being aware of such actions.	
2	It is highly desirable to reduce the number of situations where reliance is taken on institutional controls. While it may be infeasible to excavate and remove all of the underlying marsh crust at a depth of some 25 feet below grade, it is possible to excavate the contaminated soil under roadways and buildings now and minimize reliance on institutional controls.	Potentially contaminated soil presently under hardscape and buildings has no completed pathway of exposure to any receptor—human or animal. The soil management plan provisions of the ICs will allow the DON and regulatory agencies input into any work associated with removal of buildings and hardscape. This approach ensures the protection of human health in the future without providing significant resources for a response where there's no actual threat to human health or the environment. Section 12.1 of the ROD describes the ICs and their implementation.
3	Planting of trees and the excavation for utilities will require the excavation of soil to a depth of 4 ft. Therefore, contaminated soil under roadways and under existing housing should be excavated now and at least 4 ft of clean soil placed over the entire site.	There is no current excess cancer risk at Site 25 for soils from surface to 4 feet below surface. Planting of trees and excavation for utilities can be expected to occur within the upper 4 feet, so no additional activities are required for protectiveness. Should it be necessary to excavate below 4 feet, a soil management plan and approval by the regulatory agencies and the Navy will be required. Future construction activities may require the removal or alteration of hardscape or buildings, which could potentially expose PAH-containing soil. Should this occur, ICs include provisions which require a soil management plan when work is undertaken relevant to the hardscape or buildings. Section 12.1 of the ROD details ICs and their implementation.
4	The time critical removal action did not excavate soil around	The time-critical removal action (TCRA) addressed contaminated

**RESPONSIVENESS SUMMARY FOR THE PROPOSED PLAN
FOR SITE 25 SOIL DATED AUGUST 2006
ALAMEDA, CALIFORNIA**

Number	Comment	Response
	<p>trees in those areas. The risk from these areas of contaminated soil apparently was not taken into account in the human health risk assessment. The remaining trees and the surrounding contaminated soil to a depth of 4 ft should be removed and safely disposed of offsite. It is anticipated that an area of contaminated soil might be involved in approximately a 10-ft diameter circle around the base of these trees.</p>	<p>soil around trees. During the TCRA, all trees with a 6-inch or less diameter trunk were removed, the soil around the trees was removed, and the soil was replaced with clean fill. A total of 38 trees were removed during the TCRA. For trees of a larger diameter in areas with high PAH concentrations, the soil was excavated as close as possible to the tree. Then soil from between the roots was manually removed to a depth of 6 to 8 inches below surface. The excavated soil was then replaced with clean fill. Section 2.3.2 of the ROD describes the actions that were taken with regard to trees during the TCRA.</p> <p>Additionally, the deeper soil between the roots that was not excavated during the TCRA does not pose a concern for short-term exposure. PAHs in soil are not associated with short-term acute health effects. The decision to conduct a removal action was based on potential for long-term health effects for an individual that was exposed as a child for 6 years and as an adult for 24 years to the soil for 350 days a year. Any reduction in the exposure time would result in a reduction of the risk.</p>

**RESPONSIVENESS SUMMARY FOR THE PROPOSED PLAN
FOR SITE 25 SOIL DATED AUGUST 2006
ALAMEDA, CALIFORNIA**

Number	Comment	Response
SPECIFIC COMMENTS		
1	The proposed plan omits any mention of contamination in the soil around trees. The institutional control restriction in Table 4 covers "hardscape" only and not landscape items such as trees.	There is no current excess cancer risk at Site 25 for soils from surface to 4 feet below surface. The institutional controls are related to soil below 4 feet and soil beneath hardscape and buildings. Soil around trees does not pose a concern for short-term or long-term exposure. Please see the response to General Comment 4 for details related to tree and soil removal during the TCRA.
2	The statement on page 4, "Post removal evaluations show..... soil to a depth of 4 ft is protective of human health" is somewhat misleading. The risks presented in Tables 2 and 3 on page 6 homogenize the soil in the 0-2ft and 2-4 ft depths. Therefore the risk from 2-4ft soil in areas 2, 5, 182 and 183 probably exceeds the upper bound of 1×10^{-4} for cancer risk. Digging holes with shovels or backhoes would place clean soil on the bottom of the pile and the more contaminated soil on top. It is unlikely that the soil would be homogenized as implied by the calculation. Preferably it should be hauled away, but more likely it would be spread over the surface near the point of excavation.	<p>There are a number of reasons why the scenario described in the comment for either minor excavations e.g. planting a tree or major excavations would not result in an exposure that provides an unacceptable risk.</p> <p>Very few of the individual samples have PAH concentrations above the 1×10^{-4} level. Less than 10 percent of the individual samples at Decision Area 2 (2 of 24) and at Decision Area 5 (3 of 41) have concentrations above the 10^{-4} level. For Parcels 182/183, 2 of 8 samples had individual risk levels above 1×10^{-4}. Therefore, the majority of soil sample concentrations are well below 1×10^{-4} risk level.</p> <p>There are no short term or acute effects associated with exposure to PAHs at these environmental levels. The sole concern is long term cancer risk. Therefore, occasional exposure to an area of higher levels does not represent a health concern.</p>

**RESPONSIVENESS SUMMARY FOR THE PROPOSED PLAN
FOR SITE 25 SOIL DATED AUGUST 2006
ALAMEDA, CALIFORNIA**

Number	Comment	Response
		<p>Cancer risk is proportional to exposure period. The risk assessment assumes that an individual contacts soil (ingestion, dermal contact and inhalation of particulates) for 350 days a year for 30 years for 6 years as a child and 24 years as an adult and includes ingestion of homegrown produce. Any reduction in the days or years of exposure will lower the risk.</p> <p>In addition, there is orange construction screening at the 2 foot depth at Decision Area 5 and Parcels 182/183 that will impede excavation and alert the person to the depth.</p> <p>The preceding factors would apply to reduce any risk if the deeper soil was left at the surface.</p>
3	<p>The risks from the underlying benzene-naphthalene plume are not mentioned, but should be added to the soil risks. During the remediation period for the groundwater contamination, the risks from the plume could be greater than that from the soil. Also, there is no guarantee that the remediation goals for the plume, of one chance in a million cancer risk, will be achieved.</p>	<p>As part of the CERCLA risk assessment process, the risks for the groundwater were conservatively calculated. The risk for the groundwater plume assumes exposures that currently do not exist because water service to residents is supplied by the East Bay Municipal Utility District (EBMUD). The only completed exposure pathway between chemicals in the groundwater and receptors at Site 25 is for vapors that might migrate from the groundwater to indoor and outdoor air. Because the concentrations of benzene and naphthalene in the shallower groundwater are lower than in the deeper groundwater, vapor migration appears to be minimal. Additionally, a study conducted by the Coast Guard found no evidence that benzene was migrating from the groundwater to indoor air. Furthermore, the remedial goals for the</p>

**RESPONSIVENESS SUMMARY FOR THE PROPOSED PLAN
FOR SITE 25 SOIL DATED AUGUST 2006
ALAMEDA, CALIFORNIA**

Number	Comment	Response
		groundwater, as described in the OU-5/IR-02 Groundwater ROD, would achieve a one-in-a-million cancer risk. Section 7.1 of the ROD describes how cumulative exposures from soil, groundwater, and soil gas were incorporated into the risk evaluation.
4	The quantity of contaminated soil involved in the time critical removal action is ambiguously stated in the proposed plan. On page 1 it is stated that 66,700 cubic yards of contaminated soil were <u>removed</u> . This could mean removed from the soil or removed from the site. However, on page 4 it is unequivocally stated that 66,763 cubic yards were <u>excavated</u> . That in-situ volume taken to a depth of 2 ft results in an area of 20.7 acres as having been excavated. This corresponds to 80% of the 26 acres in the affected action areas. Alternative 3 talks about the <u>excavation</u> of another 14,800 cubic yards from non-hardscape areas. This corresponds to another 4.6 acres. Thus, practically no acreage is left for the hardscape. It appears that the 66,700 cubic yards of excavation has been overstated. As stated by you at the recent RAB meeting the volume is probably a fluffed-up volume or "bank yards".	<p>Site 25 is comprised of approximately 42 acres and includes three EBS parcels, Parcel 181 (Coast Guard Housing Area), Parcel 182 (Estuary Park), and Parcel 183 (Coast Guard Housing Maintenance Office), which encompass 42 acres.</p> <p>The total acreage of the Initial and Expanded TCRA for Site 25 occupied approximately 25.6 acres and included:</p> <ul style="list-style-type: none"> • 14 acres within EBS Parcel 181, specifically DAs 4, 5, 7 • 11.6 acres within EBS Parcels 182 and 183. <p>Because the Initial and Expanded TCRA of Site 25 was performed in a residential neighborhood, the excavation area was restricted to unpaved areas resulting in a total excavation of approximately 22.2 acres out of the overall 25.6 acres of the TCRA area. The building and hardscape areas were approximately 3.4 acres of the designated 25.6 acres that included DAs 4, 5, and 7.</p> <p>Approximately 66,763 in-situ cubic yards were excavated from Site 25. This measurement was a volume approximation defined by topographic survey and depth of excavation limits specified in the TCRA Work Plan.</p>

**RESPONSIVENESS SUMMARY FOR THE PROPOSED PLAN
FOR SITE 25 SOIL DATED AUGUST 2006
ALAMEDA, CALIFORNIA**

Number	Comment	Response
		<p>Alternative 3 in the Final Proposed Plan specifies excavation of approximately 14,800 cubic yards of PAH-impacted soil to a depth of 2 feet from the remaining non-hardscaped areas within Parcel 181 that includes DAs 1, 2, 3, and 6 to 0 to 2 feet depth. DAs 1, 2, 3, and 6 were not included within the acreage of the initial or expanded TCRA at Site 25 conducted in 2001/2002; thus, the volume approximation of 14,800 cubic yards outlined in Alternative 3 of the Proposed Plan should not be associated with the 66,763 in-situ cubic yards excavated during the initial or expanded TCRA at Site 25. Sections 2.3.1 and 2.3.2 of the ROD discuss the quantity of soil excavated during the TCRAs. Section 9.3 discusses the quantity of soil that would be removed under Alternative 3.</p>
5	<p>On page 7 of the proposed plan Alternatives 4 and 5 were ruled out as too costly, having costs of \$18.8 million and \$31.4 million, respectively. These alternatives are really irrational however, as they involve excavating the 2-ft of clean soil already remediated in order to get at the deeper contaminated soil. While it is laudable to consider having 4 ft or 8 ft of clean soil over the underlying contaminated soil, it would make much more sense to simply place an additional 2 ft or 6 ft of clean soil over the already remediated 2-ft layer. It would also be much cheaper. This would also provide fill needed for flood protection. Note that the elevation of the adjacent Marina Village Housing has</p>	<p>The suggestion is worth considering if subsequent development of Site 25 is undertaken after the DON has conveyed the property. Currently, there is no unacceptable risk to users of the property based on the risk assessment for the site. Section 7.0 of the ROD discusses site risks.</p>

**RESPONSIVENESS SUMMARY FOR THE PROPOSED PLAN
FOR SITE 25 SOIL DATED AUGUST 2006
ALAMEDA, CALIFORNIA**

Number	Comment	Response
	already been raised.	
6	The Coast Guard already has vacated the housing of Site 25 and apparently does not intend to use it in the future. If the Coast Guard did construct new housing on the site in the future, the removal of trees and hardscape and the raising of the surface elevation by 2 ft or more would be beneficial. If the property is to be transferred to the City or sold at auction to a developer, the value of the land would be greatly enhanced, resulting in profit for Navy rather than the developer. Thus, the Navy's reticence to remediate the site properly is probably contrary to the Navy's own financial interests.	Site 25 is being addressed in accordance with CERCLA requirements. There is no unacceptable risk to current or future users of the property based on the risk assessment. ICs address contamination below 4 feet and beneath hardscape and buildings.

Abbreviations and Acronyms:

$\mu\text{g/L}$ – micrograms per liter
 ATSDR – Agency for Toxic Substance and Disease Registry
 bgs – below ground surface
 CDM – Camp, Dresser, and McGee Federal Programs Corporation
 COPC – contaminant of potential concern
 DA – Decision Area
 DON – Department of the Navy
 EBMUD – East Bay Municipal Utility District
 EBS – Environmental Baseline Survey
 ERRG – Engineering/Remediation Resources Group, Inc.
 FS – Feasibility Study
 ft. – feet

IC – institutional control
 IR – Installation Restoration
 IRP – Installation Restoration Program
 OU-5 – Operable Unit 5
 PAH – polynuclear aromatic hydrocarbon
 RAB – Restoration Advisory Board
 RAO – remedial action objective
 ROD – Record of Decision
 TCRA – time-critical removal action
 TtEC – Tetra Tech EC, Inc.